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OF

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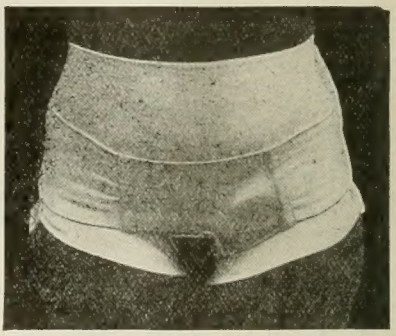

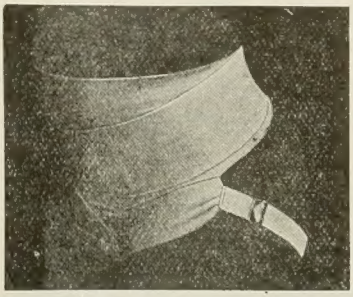

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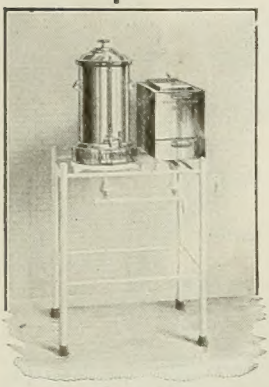

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Vol. VI **MAY, 1914** **No. 11**

Contributed Articles.

PTELEA TRIFOLIATA.

RUDOLPH B. RABE, M. D., NEW YORK CITY.

This remedy, the hop tree or wafer ash, was brought to the attention of our school by Hale in 1868 and a proving published in the transactions of the American Institute of Homœopathy for that year. This will be found on page 157 and occupies about eighty-two pages. As with so many other remedies, the employment of this one is comparatively rare, for the study of materia medica is relegated to an unimportant position in this ultra-scientific age.

In the practice of every day medicine, diseases of the stomach and liver are of common occurrence and many functional disturbances at least, of these organs, can be quickly and successfully relieved by well chosen remedies. It is in this connection that ptelea trifoliata will be found worthy of study and reference to its published pathogenesis will disclose its marked homœopathicity to numerous liver cases. Of these many present the symptoms of fullness and soreness in the right hypochondrium, together with a sensation of dragging when the pa-

tient lies upon the left side. Three remedies in the materia medica produce this sensation, namely, magnesia muriatica, natrum sulphuricum and the remedy under consideration. Magnesia muriatica, like all muriates, has dry and crumbly stools or knotty stools covered with mucus and blood. In natrum sulphuricum on the other hand, diarrhea is the prevailing symptom and this has a decided tendency to chronicity and is invariably worse in wet weather and in the morning on rising and moving about. The tongue is apt to be heavily coated a dirty greenish-gray, especially at the base. These few indications for the two remedies mentioned are sufficient to differentiate them from ptelea as well as from each other.

Ptelea is apt to be confounded with nux vomica and both have a bitter taste in the mouth, but whereas nux likes and thrives upon fats, ptelea abhors them and in this respect at least, joins its near alphabetical neighbor, pulsatilla.

Diarrhea and constipation alternate in ptelea. As an example of several cases cured during the past few years, the following will illustrate the curative action of ptelea nicely: Mrs. H., age 42 years, without children and never pregnant, presented a history of malarial fever twenty years before, controlled with quinin, but followed by mild malarial attacks spring and fall, ever since. Fifteen years before, she experienced an attack of appendicitis, for which she was not operated upon. For years she has complained of pain in the liver region. She has frequent attacks of mild jaundice, especially about the mouth and in the eyes slightly. The liver region is sore to touch, feels heavy and she prefers to lie upon the right side. If she turns to the left side she experiences a dragging sensation. Constipation is frequent and enemata are used. The face feels hot, especially on the left side. After meals she bloats and often has a metallic, bitter taste. Her appetite is good, but with an aversion to fats, which cause nausea. The menses occur every twenty-three days, are moderate in amount and last but two days only. Liver normal in size.

Naturally, in the light of the history of this patient and on account of some of her symptoms, sepia suggested itself, but ptelea was more specifically indicated and was given in the 30th potency, a single dose each night for one week.

Immediate and general improvement followed and continued for about three weeks, during two of which sac. lac.

only, was given. Upon a slight return of the dragging sensation the remedy was now repeated in the 12th centesimal potency, twice daily and brought speedy improvement with no return of the symptoms. Later on sepia was prescribed for the menstrual condition. There has been no return of any of the symptoms demanding ptelea, after a period of five and a half months and the patient feels herself to be very well.

VACCINE AND SERUM THERAPY—A REVIEW*

WILLIAM H. HUMPHREY, M. D., TOLEDO, OHIO

In presenting this important subject for consideration I make no claim to originality. Like the average practitioner I am a clinician and not an original research man. We all envy and laud the skill of the man who has opportunity and education for original research work. We admire his competency and grasp his products with avidity. It remains for the practical physician to apply his findings at the office or bed-side to determine the practical value of them.

For the past twenty years much has been done toward learning the exact cause, and, thereafter, a specific cure for disease. The line of thought pursued has brought about in many instances, an exact pathology from which the therapist hopes to deduce a method of cure which is exact in its application, with the result that we have developed a large line of remedies known as vaccines and serums which are as familiar perhaps to all of us present as any other theraputic agent. It is for the purpose of discussing these products that I undertake to review the causes and methods which lead to their production.

The flood of literature coming along almost daily upon these subjects is sufficient to cause the most conservative to take notice. The pharmaceutical houses are busy placing before us bacterins, serums, and similar products for all our ills. Medical practice is made easy and results are positive if we believe all we read from these sources. The tradesmen are not to be blamed if this source of cure is overlooked by the profession. However, their enthusiasm in this line is possibly no greater than it is in other directions. There is a reason. Behind all this agitation there is a scientific source which is well meaning and serious in its intention and, in a measure, suc-

*Read before Cleveland Hom. Soc. Feb. 18, 1914.

cessful in its results. These results are sufficiently well proven to cause the profession to give serious thought to the claims of the vaccine and serum therapist.

There is no doubt but that we are entering upon an era of added therapy. It is imperfect, faulty, and often disappointing, yet there is great good in it. We should not expect that because we select a remedy and administer it but do not get results, that the remedy is always a failure. We are too prone to charge failure to the means employed rather than to the lack of judgment used in selecting the means.

Ever since the attempt to establish this method of treatment many homœopathic physicians have claimed that it is homœopathy and have endeavored to demonstrate the truthfulness of their contentions. It has remained for the regular profession to openly declare that it is so. It is not homœopathy but isopathy in a refined state. Be that as it may, marching under the banner defining a homœopathic physician, we should adopt so much of this, or of any other therapy, as will furnish us with a better means for healing the sick.

The aim of the vaccine and serum therapy is to aid nature by the establishment of immunity within the human organism. This presupposes specifics for the cure of particular diseases defined and established by special diagnosis, aided by all modern methods. This seems simpler than the old method of hunting for the simillimum, but far from it. It requires a technic and a patience such as has never been displayed in the annals of medicine.

Passively acquired immunity is the foundation for serum or vaccine therapy. This is made possible by the adoption of Ehrlich's side-chain theory completed by means of the opsonic index. Immunity is the nonsusceptibility to a disease or the ability to resist the action of the causes of disease. It is natural or acquired. Even natural immunity is not always constant. It may be reduced or removed by hunger, cold, or exhaustion. Specific acquired immunity results after a pathological condition has existed, such as is the case after scarlet fever, or because the patient received substances prepared by some other animal or individual which has gone through a natural or modified course of the disease. Acquired immunity may be life-long as in the case of smallpox, or it may be of short duration as in the case of erysipelas. There are two types of ac-

quired immunity, namely active and passive. An active, acquired immunity is one in which the individual has survived a natural or modified course of the disease produced by a particular organism. The individual in this case produces his own immunity, or has it produced experimentally or intentionally, which latter is usually termed vaccination. Active curative or protective immunization is most frequently attempted by injections of killed microorganisms although toxins and living organisms are also used. The killed organism prepared for immunization are known as vaccines or bacterins. These are prepared upon culture media suspended in salt solution and killed by heat. They carry an antigen.

When living organisms are injected their virulence is usually reduced by passage through suitable animals, growth on artificial media, incubation at unfavorable temperatures, or in the presence of certain chemical or other unfavorable conditions so far as oxygen is concerned.

Passively acquired immunity is brought about by the introduction of immunizing substances prepared by actively immunized animals or individuals. This is the manner in which we use blood serum, etc. Of the several substances some are known as antibacterial, acting on toxins as antitoxins and preparing bacteria so that phagocytosis can occur, and are said to be opsonifying or bacteriotrophic. The antitoxins have been most efficient. Of the many theories which have been evolved and adopted, and in turn, rejected, as to how food and other substances reach the cell, Ehrlich's side-chain theory is the one under which experimental work is most universally carried on. It assumes that food must enter into chemical combination with the cell so as to be assimilated. In order to bring about this combination every living cell must have in addition to its dominating body, a number of groups of different chemical structure intended for proper combination. To these chemical groups Ehrlich gives the name of side-chains or receptors. Their principal function is to convert foreign substances into suitable condition so that they may be assimilated and serve as food for the central or active part of the cell. Receptors have, however, the greatest variety of function so that at times they combine the cell with substances which are not food, but which are actual poisons. The combination of receptors with food is loose, and after assimilation of the food the receptors

are freed. Anchorage of the receptors by toxins results in the loss of receptors and causes injury to the active part of the cell. This injury to the cell varies from impairment of function to death, and if enough cells having vital function to perform are destroyed, death of the organism follows. However, when not enough receptors are anchored, or the harmful substances are not potent enough to destroy the cell organism, immunization generally results. (Schorer.)

Ehrlich assumes "that when the receptors of cells are injured and thrown out of function the cell produces new receptors and that this regeneration does not cease when all the receptors have been reproduced but that an actual excess is reproduced. This leads to a disturbance of the equilibrium of the cell as a result of which the surplus receptors are thrown off. The cast-off receptors retain the power of combining with foreign substances but cannot furnish a means of serving for the anchorage of food or deleterious substances to the cell. These free receptors enter the fluids of the body and are known as antibodies."

It is for the purpose of increasing these antibodies that vaccines and serums are injected. The bacterins are cultivated in artificial media while the serums are usually prepared from an animal injected with specific organisms for the purpose of producing an abundance of antibodies which may be transferred to the patient. Many varieties of antibacterial sera, or vaccines, are upon the market, such as streptococcic, pneumococcic, typhoid, dysentery, etc., but their success so far is limited. They have not been so successful as antitoxins. Much of the failure is due to the lack of specific diagnosis but more is due, no doubt, to the fact that they are not well understood or that the specific microorganism acts so quickly, has so short a period of incubation that the autogenous vaccines are useless as curative measures. Whenever the cells and toxins have combined and the body cells have been injured as a consequence, no amount of antitoxin can protect the cell from the action of the poison molecule. Antitoxic bodies can only anchor and render inert such toxins as are free or have uncombined receptors.

The use of serum or vaccine is not always free from risk or unfavorable, or even dire results. This may be due to faulty preparation of serum resulting in the development of undesirable antibodies, or lack of fixation of all the toxins or bacteria

injected into the animal immunization. These are supposed to be removed by filtration but when this is not perfectly done, added intoxication may result. We have as a result, serum sickness. Of this there are two types; one follows the first injection and another which follows the second or subsequent injections. That following the first injection develops from eight to twelve days after the injection and consists of fever lasting during the entire course. With this there is exanthema, usually an urticaria. This appears first about the point of injection. Later it is distributed symmetrically with severe itching. Other symptoms are swelling of the glands in the neighborhood of the injection. There is pain in the gland which is of prognostic value as the gland does not begin to subside until the pain leaves. Joint pains in small joints are sometimes present. Edema appears in a minority of the cases. Albuminuria is seldom or never present. Mucous membranes are not affected and this distinguishes it from measles or scarlet fever. The absence of Koplik spots, coryza, conjunctivitis, etc., render plain the differential diagnosis from measles.

There is no contagion, scaling, angina or nephritis, which differentiates scarlet fever.

If an injection be made from twelve to forty days after the first, the incubation period is shortened. Serum disease follows subsequent injections more frequently than the first and may be produced by smaller amounts. The symptoms of serum disease produced by subsequent injection are usually more severe than the first but shorter.

Serum disease has been the cause of much agitation against the use of specific antisera. Observation has taught that it more frequently follows after the second or subsequent injection. It has also taught that if the interval be less than ten days sensitization seldom occurs. Experiment and observation prove that asthmatics do not stand sera well. It is quite generally believed that anaphylaxis is due to specific antibodies called allergins. What this structure is is unknown, but their action is quantitative.

Let us consider a number of vaccines that have prominence in the list and draw our conclusions from the results attained by physicians active and conscientious in the field along this line.

Streptococcic vaccine in its different varieties has been exploited as much, perhaps, as any. Schorer, after admonishing us that many cases of streptococcic septicemia recover even when no specific treatment is given, shows that in 1907 he treated 37 cases of erysipelas by killed cultures isolated from the lesions of erysipelas. He found from the results that it was impossible to determine their value. Injections of from 25 to 100 millions of streptococci did not prevent migration or recurrence; and that, while there was apparent shortening of the course, yet there were no suitable cases untreated which could be used for comparison. The same is found to be true of the micrococcus of gonorrhea. It has not proven to be of value in the acute stage. What benefit has been attained has been in the complications and chronic conditions which follow as secondary effects upon the acute attack.

Pneumonia is caused by great variety of organisms so that the specific organisms in a given case are hard to diagnose. Consequently the small hope of success from their employment. As for instance the diplococcus pneumonia, streptococcus pyocaneus, micrococcus pyogenes, bacteria pneumonia (the Friedlander bacillus), bacteria influenza, diphtheria, bac. coli, bac. typhosus, micrococcus catarrhalis, bac. tuberculosis. Any of these may be causative factors so that a specific diagnosis is difficult.

Rosenow reported a death rate of 32 per cent in the treated cases and 50 per cent in the cases untreated by vaccine, in pneumonia in Cook County Hospital in 1911 and 1912. Would any of us abandon our present methods for these? Their only value has been in chronic conditions.

The diplococcus intracellularis, the meningococcus which is the active factor of epidemic cerebrospinal meningitis, has been much exploited of late. There are many cases of meningitis which fact should always be kept in mind when using a serum for meningitis. The treatment of epidemic meningitis by serum is difficult because of the difficulty in making a specific diagnosis.

The Flexner-Jobling serum is the one which has been given great publicity and is the one which is used most in the United States. The Flexner serum is produced by first injecting the horse with killed meningococci in increasing doses; later, doses of living meningococci; and finally an extract of

meningococci. This serum is used subdurally, as is well known, in doses of 30 to 60 c. c., up to 240 c. c., at various intervals commencing as early as possible. Immunization is practiced and claimed to be of value. The results claimed for the use of this serum is that it has reduced the death rate from 70 per cent to 30 per cent but no statement is made as to whether any untreated cases were used for comparison, neither is any statement made as to whether quarantine was considered in the reports of immunized cases.

Tuberculins are too well known to need discussion at length. Schorer concludes that recovery from this disease is not associated with antibody formation but with incapsulation of the bacilli. Trudeau states that after fifteen years of experience with tuberculin as a curative agent, he does not know positively about it, but that he does know that 25 per cent more of those who took it at the sanitarium are living after 15 years than of those who did not take it. This seems a candid statement and should have value, yet we find most physicians who were enthusiastic and who employed it four or five years ago have abandoned it as a curative agent. Whether this conclusion is well founded it is difficult to ascertain. How much of failure should be charged to the lack of patience and detail and control of patients, such as was exercised by Trudeau at Saranac Lake in his sanitarium, and how much is due to the inefficiency of the serum, is a matter difficult to determine. Immunization against tuberculosis in man has not been proven.

The treatment of typhoid fever with the antityphoid serum has not shown any benefit as a curative agent in the management of this disease, but the immunization against typhoid seems to be proven a success. There are a good many statistics, largely governmental, which are available, which go to show that it is a benefit. A. E. Wright reports that during a recent epidemic at Ladysmith, out of 10,529 men not inoculated, 1,487 developed typhoid with 389 deaths; of 1,705 inoculated, 35 developed the disease with 8 deaths. This shows that the number of cases in those in the unvaccinated was about 10 per cent while in the vaccinated only 2 per cent contracted the disease. The death rate, however, of this particular epidemic, among those who took the disease was practically the same in those who were vaccinated as in those who were not vaccinated.

Typhoid fever in the U. S. Army from 1908 to 1910 showed that there were immunized 14,000 soldiers out of a total of 84,000. Among the immunized 6 men contracted the disease. Of those not immunized, 418 took it. There was no death rate among the immunized; among the nonimmunized the death rate was 6.2 per cent. This of course shows that there is value in the immunization treatment against typhoid fever.

The treatment of diphtheria by antitoxin is too well known to need discussion and is, in fact, the only thoroughly reliable serum which has been discovered which possesses value as a preventive and a curative agent also.

Vaccination for smallpox stands out as one of the great triumphs in the medical world. It cannot be attributed to science for its discovery was a matter of clinical observation. The method of vaccination today stands very nearly where it has from the first. The virus used possesses some qualities which are diametrically opposite to the usual bacterins used in medicine, i. e., it is rendered inert by heat and becomes inert also from age. The glycerinated bovine virus now most used is an improved product in that the bovine virus is macerated in glycerin and strained through gauze. Glycerin has the advantage of killing many of the extraneous bacteria and does not destroy the essential virus. Strange as it may seem, this virus has not been isolated.

The prevention of hydrophobia is one of the successes of modern vaccine methods. Active immunization by the method of Pasteur is broadly practiced. The prevention of hydrophobia by the serum is very potent and illustrates the claims of the serum therapist to the necessity of specific diagnosis. Pasteur Institutes abound. In fact all cities of importance now have some one who gives the treatment. There are some ill effects of transitory nature which are of minor importance so that no one hesitates to accept the treatment after a proper diagnosis has been made.

Tetanus antitoxin is another serum which has been exploited a great deal. It is prepared after the manner of diphtheria antitoxin. Tetanus toxin has been proven to circulate in the blood and lymph, but shows no symptoms until it unites with and is absorbed by the end organs of the motor nerves and the central nervous system. To reach the end organs the toxin is carried through the axis-cylinder. It will be seen that

when the symptoms of the disease appear the toxins have combined with the cells and cannot therefore combine with the antitoxin. Tetanus antitoxin can combine tetanus toxins before the latter are taken up by the nerve cells and axis-cylinders. For this reason it is of value as a prophylactic. Tetanus is not always suspected until symptoms appear, in which cases it has been tried frequently as a curative measure without satisfactory results. As a prophylactic it is used subcutaneously in doses of from 1,500 to 3,000 units. For curative purposes large doses up to 200,000 units have been used intravenously or subdurally. It is hoped by these large doses to break the union of the toxin with the cell. Schorer points out, however, that magnesium sulphate solution should also be employed. A solution of ten to twenty-five percent is injected into the spinal canal or intravenously. It can be given in repeated large doses. The treatment of tetanus by magnesium sulphate is one of the prominent products or remedies brought out by the Rockefeller Institute. Its success in active cases of tetanus has been of late more marked than that of any other.

As a prophylactic tetanus antitoxin is successful. Jordan showed that in the United States in 1905 there were 4,449 Fourth of July injuries with 406 deaths from tetanus, while in 1907 there were 62 deaths in 4,413 Fourth of July injuries where immunization with antitoxin had been quite universally practiced.

There is a list of perhaps 40 stock bacterins and sera upon the market. The above list constitutes the sum total of those for which any just claims have been made by any reliable authority. I have quoted freely from Schorer, who is certainly candid in his claims. Dr. Frank Billings, who is editing Forcheimer's second edition just now coming from the press, shows a list of authorities and contributors numbering 163, and sums up the consensus of their opinions by issuing the solemn admonition to be cautious and not to accept laboratory tests as sufficient grounds upon which to build therapeutic measures.

Of the number detailed in this paper only one possesses positive curative qualities. Diphtheria antitoxin has been proven to be both preventive and curative. The Neisser bacterins are only of value in chronic conditions as are also some of the streptococci. Tuberculin is still among the doubtful list

with a preponderance of evidence much against it. Its only well established claim is in diagnosis. Pneumococci are of such variety that nothing can be said in their favor. Of the rest the diplococcus intracellularis is yet in its infancy and has not been sufficiently proven to be of fixed value, and yet we hope that it will prove a specific in this terrible malady. Tetanus antitoxin, hydrophobia serum, smallpox vaccine, are all preventive measures and all except smallpox are serums. The bacterins almost without exception are applicable to chronic conditions only and should be autogenous whenever possible. Even then they are mixed, opening the way for the pharmaceutical houses to lay claim to the use of their mixed varieties in stock. All sera are stock. Even with the limited number of successful sera and vaccines much has been done that the thinking physician will stop to consider. Cerebro-spinal meningitis, diphtheria, tuberculosis, hydrophobia! Certainly anything which will relieve these should enlist the attention of the profession.

We should withhold judgment and not condemn because certain of the vaccines and serums have not proven efficient. Be it said of them in all fairness that those which have proven efficient have done so in preventing dire results in diseases which have baffled curative agents for centuries, and that these diseases are now listed among the preventable ills of mankind.

The successful vaccines and serums have rightly won a place among the agents enlisted in the great field of preventive medicine. Had curative medicine been adequate, the need for preventive medicines would have been much less imperative.

CASE OF ANEURISM OF THE TRAVERSE ARCH OF AORTA.

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AUTOPSY BY W. H. WATTERS, M. D.

A colored woman, aged 43, was admitted to the Massachusetts Homœopathic Hospital, December 13, 1913, on the medical service of Dr. Nelson Wood.

Patient had been treated by a medical student who made a diagnosis of bronchitis with neuritis of the left arm.

F. H.—Father died of carcinoma.

Mother living and well. One sister died of tuberculosis.

P. H.—General health has always been good. Has had tonsilitis several times, the last attack occurring three years ago. Tonsils removed. Has one child and has had six miscarriages.

Pl.—Onset six weeks ago with a bad cold, cough, and night sweats.

Three weeks ago she began to be troubled with dyspnœa and noticed that the neck was swollen. Cough paroxysmal.

For two weeks has not been able to swallow much solid food. The left arm feels numb at times and motion is limited. At times cannot raise it to her head.

The dyspnœa has been worse the last week. The cough some better. Ocasionally, has a very severe coughing spell with much dyspnœa.

Physical Examination:—

Pupils were equal and reacted to light, no exophthalmos or enophthalmos.

The left supraclavicular space was obliterated, the tissues of the left shoulder were swollen, also the upper part of the thorax.

All movements of the arm were limited, and there were times when the patient could not raise the hand to her head.

There was a tender area just above the episternal notch.

A pulsation was seen in the 1, 2 and 3 left intercostal spaces.

Tracheal tugging was elicited.

Blood pressure on the right side—Systolic.....140
—Diastolic.....125
" " " " left " —Systolic.....125
—Diastolic.....115

There was a decrease in volume of the left radial pulse.

There was no abnormal dullness over or to either side of the manubrium (heart) not enlarged on percussion.

Aortic second sound slightly accented. No murmurs.

Lungs—Harsh breath sounds and numerous crackling rales.

Treatment and Course:—

Tartar emetic was given the first day, also bryonia and heroin gr. 1-12 for the severe coughing spells. Later, codein was tried.

December 13, 1913:

Temperature ranged from ..... 96.8 to 99.6
Pulse " " .....120 to 132
Respiration " " ..... 80 to 104

December 14, 1913:—

Temperature remained the same
Pulse ..... 100 to 128

Respiration was so rapid they could not be counted the greater part of the day, but at 6 p. m. they were 32 and at 9 p. m. 60.

Patient had several paroxysmal coughing spells of a peculiar ringing character: great dyspnoea, profuse sweating and difficulty in swallowing.

December 15, 1913:—

Temperature remained low.
Pulse ..... 100 to 128
Respiration ranged from ..... 24 to 40

Patient had two coughing spells which were not so severe. There was great dyspnoea and deglutition was very difficult.

December 16, 1913:—

Temperature remained low.
Pulse ranged from .....112 to 126
Respiration from ..... 24 to 32

There was great difficulty in swallowing, even liquids and the attempt caused great dyspnoea.

The following day the patient was much worse, breathing very difficult and the pulse rapid and weak.

Patient died at 10:45 a. m.

A diagnosis of aneurism of the traverse arch of the aorta had been made by me. This was later confirmed by x-ray plates which showed a large tumor, mass situated in the vicinity of the anterior mediastinum and extending under the clavicle on the left side.

Laboratory reports:

December 14, 1913:—

Wassermann reaction strongly positive.

December 16, 1913:—Urinalysis.

Dark yellow sp. gr. 1027 reaction acid, albumen, slight trace, sugar negative: microscopic examination showed a few finely granular casts, a few squanous cells and some pus.

Autopsy by Dr. W. H. Watters.

Pleural Cavity:—

The right pleural cavity is almost entirely obliterated by the presence of rather firm fibrous adhesions. The left cavity is greatly distorted by a large tumor mass, situated in the vicinity of the anterior mediastinum and extending upward under the clavicle.

There was no adhesion in the posterior part of the cavity. (Heart) Pericardium contains an excessive amount (15 c. c. estimated) of clear slightly straw colored fluid. The pericardial wall smooth. The right side of the heart is considerably distended with an abundance of dark red slightly coagulated blood. The myocardium is firm. The endocardium is smooth throughout. The valves present no abnormality. Beginning at a distance of about 5 c. m. above the aortic valve, the aorta suddenly bulges outward in all directions. The vessel being involved over the entire arch to the descending part. This bulging mass extends about 5 c. m. to the right of the medium line and upward under the clavicle on the left side. It is firmly adherent to the surrounding tissues and when the fibrous adhesions are broken, permits of escape of a large amount of laminated clot of varying color. At the lower part of this and corresponding approximately to the site of the normal aorta, there is a free channel through which the blood has evidently been passing. The descending arch is smooth and moderately elastic.

Lungs, liver, spleen and alimentary tract show no abnormality.

Genitalia.

Fibro-myomata uteri

Chronic cystic oophoritis, right.

(Characteristics of the Preceding Case)

There was no dullness over the manubrium This being the most constant single sign. A visible pulsation in the episternal notch which is generally present, was absent. No systolic thrill over the pulsation. In aneurism of the traverse arch the sac usually presents in the middle line and to the right of the sternum, while this was to the left.

Clinical Research.

FURTHER OBSERVATIONS OF INDICANURIA.*

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It has been well said at a previous meeting by one of the members of this Association that the only authorities to be recognized are facts. Of necessity the practice of medicine is based on personal experience and related facts, but even the most astute observer will take some things for granted, and in this way faulty premises have been admitted upon which elaborate theories have been built. How apt we are to apply the findings of the laboratory to actual practice without so much as questioning the value of such a procedure, although our experience with tuberculin, with tetanus antitoxin, with the Wassermann reaction, etc., should have taught us to be more conservative. No discovery can be considered complete in itself, but its constant increasing relations demand renewed study and criticism. This is especially true in clinical medicine, with its many intricacies and unsolved problems, and every step of attempted progress should be well guided by the new perspective of fundamental facts. It behooves us, therefore, to pause frequently to look back as well as forward, and it is one of these retrospective glances to which I invite your attention at this time. My aim is partially to review the bearing of dietetics on indicanuria in the light of my own clinical experience, insufficient and unsatisfactory though it may be.

The object of treatment of indicanuria, when not due to intestinal obstruction, is to gain control of the proteolytic (putrefactive) flora of the intestine. This appears to be best attained by a well selected regimen; and to put this matter to a clinical demonstration the following experiment was undertaken:

The subject selected was a man of about fifty years of age, of normal weight, and complaining merely of a sense of fullness and eructations after meals. An analysis of the stomach contents, after an Ewald's test breakfast, revealed a complete absence of free hydrochloric acid, an abundance of bacteria, and a retarded motor function. The history of the case led me to suspect atrophic catarrah. The urine persistently contained large amounts of indican.

*An abstract of paper read before Amer. Soc. Clin. Research, Nov. 1913.

The observations made during the first ten days, during which time the patient lived on his usual mixed diet and under normal conditions, were taken for the purpose of obtaining a standard, or control. During this period the ratios of indican-urea and of glycuronates-urea varied considerably, as well as the total excretion of indican and glycuronates. The excretion of these two substances formed almost parallel curves. These curves may amount to as much as 33 per cent above and below the normal average figured on the urea excretion. On account of these very great normal fluctuations, the effect of a changed diet can be determined only by the averages of a series of urinary excretions.

Before noting the urinary changes resulting from a modified diet, let us for a moment consider the possible causes of the above variations. These are to be sought for not alone in the intensity of the putrefactive changes taking place in the bowels. Since a large part of the aromatic bodies formed in the intestines become expelled with the feces, urinary indican is limited to the indol absorbed. The amount of indol absorbed will largely depend upon the efficiency of the intestinal peristalsis and upon the absorptive power of the mucous membrane of the bowels, which is subject to the variations of the local circulation. Even after absorption, the destiny of indol is uncertain. Jaffè, Wang, and Ellinger (1) found a loss of indol in its transit from the intestinal canal to the urine of 40 per cent and over. It is quite probable that some indol becomes lost by disintegration, but Herter (2) has shown that a large part is absorbed by the liver, muscles, intestinal epithelium, the kidneys and the nervous tissues, and held by them in loose union, to be returned later into the blood stream; and then oxidized and paired with glycuronic or sulphuric acid for excretion. Hammarsten found traces of ethereal sulphates and glycuronates in normal bile. Finally, indicanuria must be more or less dependent upon the integrity of the kidneys. F. Obermayer and Popper (3) found indican practically absent in the blood of patients free from kidney disease, but constantly present in advanced nephritis with uremia. My own clinical experience tends to show that indicanuria in interstitial nephritis is not much more than one-half of that of all other diseases. When the kidneys are intact, however, as in the subject of my experiment, indican, like all other sulphates, is readily eliminated.

and the quantity of the urine excreted bears no relation to the total output of indican or glycuronates.

Immediately following the control test of ten days already mentioned, my patient was put upon an almost protein free diet for three days, abstaining from all proteids—meats, fish, eggs, milk, beans, and peas—from cake and all cereals, except rice. At the end of this time indican fell to about one-third and the glycuronates to about one-half of the average normal.

On the fourth day, no food, except 4 glassfuls of lemonade, was taken, thus insuring absolute freedom from all proteins. During this day the urea nitrogen fell to the minimum amount, while the excretion of indican and glycuronates rose decidedly above the amounts of the previous days. This rise of the aromatics was most marked during the first fifteen hours of the fast. On the fifth day liberal feeding with a mixed diet was begun, and notwithstanding the ample supply of protein, the amount of indican and glycuronates in the urine fell considerably below that of the previous day. On the next day—the second day after the fast—the excretion of urea, indican and glycuronates rose to their normal amounts.

During an attack of cholera morbus suffered by my patient a few months later, I was afforded an opportunity to watch the effect of another fast upon his urine under slightly different conditions. The same curve of indican and glycuronates excretion was observed, viz: an increased amount on the day of the fast, a fall when food was first taken, and a return to the normal excretion a few days later. An increased excretion of the aromatic substances during fasting has been noted by a number of observers. Baumann and Wastiff (4) found an increase in aromatic sulphates in the urine of starving dogs. Ellinger (5) attributed the indicanuria in starving animals to their eating their own feces, and noted a disappearance of the indican reaction as death approached.

That atrophy of the tissue cells stored with indol does not account for the increased indican excretion was proved by Ortwiler (4) who ascertained that in febrile diseases not involving the intestine and accompanied by destructive changes, there is no increase of indican in the urine, a fact quite generally observed. Consulting my own clinical records for evidence, I find that those cases presenting diacetic acid in the urine from

fasting or insufficient food (diacetic acid appears in the urine after the fourth day of fasting), show no more than the usual amount of indicanuria. The most plausible explanation of this high indicanuria during the first day of fasting and its gradual decline during its continuance is offered by Ernst (6) who proved that a part of the indol is due to putrefaction of the bile, of the intestinal and pancreatic secretions, and of mucus, in connection with an almost completely arrested peristalsis. We may go a step farther and attribute the low indican outputs seen both times when feeding was resumed, to a lowered vitality of the putrefactive bacteria and to an increased paristalsis.

After the first fast and its reaction, my patient was put eight days upon a mixed diet for the purpose of providing another period of control. During this time and throughout the remainder of the experiment the food materials taken were weighed and measured and their carbohydrate, fat, and protein contents calculated for each day. But the variations of the carbohydrates and fats found in the composition of the food during this period were too slight to show any perceptible influence upon the excretion of indican or glycuronates. The averages of these substances during this second period of control were almost the same as those found during the first period of ten days.

After this followed six days on a diet free from meats and fish, and also free from eggs, except such amount as was used in pastry. As a substitute for these proteids 3 pints of buttermilk were taken per day. Upon this regime the total excretion of nitrogen was somewhat higher than when the patient was on a mixed diet, but the quantity of urinary indican was decidedly smaller, while the glycuronates remained about the same.

This was followed by three days on 1½ pints of milk and 3 eggs per day, besides farinaceous articles and vegetables. No meat, or fish was allowed. During this time the urea nitrogen was slightly less; the indican out-put the same as during the six days preceding.

As soon as meat again was added, during the next two days, there was an increase in indican and glycuronates, and their ratios with urea were lowered.

During the following two days, meats, starches and vegetables were allowed, but no milk or eggs. This lowered the urea excretion, but raised that of indican and of glycuronates.

For the next two days no protein food except 6 eggs per day was used, and the excretions were practically the same as when meat was taken.

The experiment ended with four days on vegetables and only milk for proteids—3 pints a day. No eggs, meats or fish were taken. At this time the most satisfactory result was obtained, for the ratios of both indican-urea and glycuronates-urea rose to a height not before attained.

This favorable effect of milk has long been noted by various research men. Biernecky (4) found that on an exclusive milk diet the aromatic sulphates diminished one-half. Winternitz (4) ascertained that by adding a large quantity of milk, or milk sugar, glycerin and lactic acid to a meat diet, putrefaction was greatly lessened. In dogs first fed on meat, then on a milk diet, the ethereal sulphates were reduced to less than one-third.

While the value of milk in intestinal putrefaction is now generally conceded, how this antiputrefactive action is exerted has been a matter of considerable speculation. Wesener proved that the aromatic sulphates were not reduced by casein; and Schmitz and Baumann (7) found that casein augments the sulphoethers in the urine, as do also, in a less degree, the fats. Carl Schmidt believed, with Schmitz, milk sugar to be the antiputrefactive element in milk. Combe (7) is of the opinion that this virtue of milk is due to the conversion of its lactose (milk sugar) into *nascent* lactic acid, which in this state acts with greater energy, and that the action of milk or fresh cheese is more profound than that of pure lactose, because the milk curds oppose the two rapid absorption of the milk sugar.

This leads us to a consideration of the chemical reaction most favorable to intestinal putrefaction. On standing, under natural exposure, milk will turn sour, but rarely becomes putrid. This is due to the fact that the bacteria most commonly found in milk, the bacillus lactis aerogenes and the bacterium coli communis, decompose milk sugar into lactic and other organic acids. As almost all proteolytic bacteria require a neutral or alkaline medium for growth, their activity is arrested. The bacterium coli communis, of well-known proteo-

lytic power, is capable of growth in a slightly acid medium, but, in common with many other bacteria, suspends its proteolytic activity when sugar is available, and spends its energies on the sugar content, with the formation of lactic, acetic, succinic and formic acids. Taking, for illustration, two cultures of this bacterium, to one containing plain peptone bouillon, the other peptone bouillon to which 1 per cent of dextrose has been added, the following differences will be noted after one week's incubation: The culture containing no sugar will be alkaline in reaction, foul smelling, and containing ammonia, indol, skatol, and aromatic oxyacids typical of putrefaction. The other culture grown on dextrose bouillon, will emit a pleasant odor, and in it the above mentioned organic acids can be detected, the changes here noticed being due to fermentation, with no appreciable evidence of proteid decomposition.

Theobald Smith (8) has observed that when grown in a sugar free broth the bacillus aerogenes capsulatus, one of the more common intestinal anaerobes, produces a toxic substance, but this poison is not found if the same organism is grown in unfermented (sugar-containing) broth.

Of course, the phenomena in the test tubes can not be accurately reproduced in the alimentary canal, with its complex flora and reactive changes. On account of the rapid absorption of organic acids from the digestive tract it is not possible to render the entire intestinal content acid in reaction through a partial or complete milk diet, nor would it be desirable if it could be done, but the longer an acidity can be maintained, the less will be the putrefactive changes taking place therein.

That a similar antiputrefactive action can be obtained by adding farinacious articles to a meat diet was first proven by Hirschler and made evident by above bacteriological demonstration, since we know that by the digestive ferments starch is successively converted into dextrine, maltose and dextrose. Theoretically, therefore, a lacto-farinaceous diet is best suited to combat excessive intestinal putrefaction. The practical value of this conception is supported by my clinical experiment, for although the considerable normal fluctuations of the indican and glycuronates excretions mask, to some extent, the effects of a changed diet, the fact that the highest average excretions of the aromatic substances occurred when the proteid allotment consisted of meats and eggs, and the lowest excre-

tion when the proteids were furnished by milk only, seems more than a chance occurrence.

The natural antagonism of certain lactic acid bacteria to the anaerobic germs of putrefaction is well-known through the researches of Metchnikoff, Grigoroff, and their followers, and this has lead to the present extensive employment of yoghurt and numerous commercial preparations of the Bulgarian lactic acid bacillus—the vaunted elixir of life. No doubt this antagonism can be beautifully demonstrated *in vitro* in certain laboratories, but my every attempt to prove the practical value of these preparations by the clinical demonstration of a vanishing indicanuria has proven a flat failure. These failures may be attributed to inert materials employed, for several attempts to obtain cultures in bouillon, milk or milk serum from various tablets and emulsions have all proven futile, at least so far as the growth of the lactic acid bacilli was concerned. As some of these specimens were received directly from the manufacturers, and under guarantee, there seems but little hope of obtaining help from this source.

In conclusion, I am led by my clinical experience and experimentation of the past year to add to the summary on indicanuria presented in my last report the following personal observations:

1. That the indican-urea ratio presents normal fluctuations of as much as 33 per cent, and possibly more, of the average ratio.

2. That the withdrawal of all proteids from the diet most certainly reduces the amount of the aromatic bodies in the urine.

3. That the immediate effect of fasting is a greatly lowered indican-urea ratio during the first day, probably from decomposition of the bile and the intestinal secretions, with lack of peristalsis; and that this is followed by an unusually high ratio on the day when feeding is resumed.

4. That the variations in quantity or kind of starches and fats of a normal mixed diet have no perceptible influence on the amount of indicanuria.

5. That the quantity of the urinary excretion does not bear any relation to the output of indican in twenty-four hours' urine when the kidneys are normal.

6. That higher indican-urea and glycuronates-urea ratios are obtained by substituting milk for meat or eggs in the diet.

7. That many, if not most, of the commercial preparations of lactic acid bacilli are sterile, and therefore, inert as means of controlling intestinal putrefaction.

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Surgical and Gynecological Society.

POSTOPERATIVE ABDOMINAL ADHESIONS AND SEPSIS. SOME IDEAS AS TO THEIR PREVENTION AND TREATMENT.

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Of the many postoperative sequelae that baffle the work of the abdominal surgeon, sepsis and postoperative adhesions play the leading roles. The etiology and treatment of both these serious complications are so similar, that it would seem best to consider them together in this paper. Postoperative adhesions are the principal factors of chronic invalidism after operations. Sepsis, which does not result in death, is the principal factor in the formation of adhesions.

How to prevent these conditions, how to deal with them when they become the all-important factors in a case, are the greatest problems of abdominal and gynecological surgery.

Frequently cases are worse by these factors; often brilliant work is nullified by them.

In abdominal sepsis and adhesions with their ever present bowel stasis, what are the *factors that create ill-health and tend to dissolution*, and how shall we combat them? These are the great problems, toward which in the limited time at my disposal, I purpose to address my remarks.

In order to fully understand these in the light of our present day knowledge and accumulated experiences, let us consider for a few moments a number of established facts that have a most important bearing on this subject.

Anatomically, the main tissues and organs directly perverted by these conditions are the great gastrointestinal tract with its related organs, the liver and pancreas, and the peritoneum with its blood vessels, nerves and lymphatics. The surgeon must not only know them anatomically, but must understand them physiologically and pathologically, if he is to be more than a mere follower of established surgical technic. The internist, if he is to attain the greater degree of understanding and proficiency, must accompany his patients to the operating table and see there the "living pathology," and know how to appreciate when it is still within the period of possible restoration to normal conditions.

How to remove the pathological lesions, or correct the perverted functions of these tissues and organs, are matters of surgical technic and mechanical skill; how to successfully combat the sequelae of these procedures and assist nature in re-establishing a better degree of health, requires the broadest knowledge of all the associated branches of medical science, enriched and made practical by a wealth of carefully observed clinical experience, and a life so consecrated to the profession as to make it the all-absorbing purpose of the individual's existence.

The common idea that the feces consist chiefly of the food residue, is not sustained by the results of recent investigations, for besides this, there is the intestinal secretion, (succus entericus) secreted by the tubular glands of the intestines to the extent of about three litres every twenty-four hours, (estimated by Pregl) and the various other secretions and excretions from the mouth, stomach, liver, pancreas, etc.; added to

these is the flora of the different parts of this gastrointestinal tract.

Like the different parts of the body, the different portions of this canal accustom themselves to and build up a resistance against the activities of their normally contained bacteria and toxins. For instance, the mouth is accustomed to the flora of the mouth, the rectum to the bacteria of its location. Injuries to either of these organs cause little trouble, unless a new flora is introduced. So with the inflamed, congested intestines in stasis; transfer the contents of the lower bowel by reverse peristalsis up into the upper bowel and stomach where the epithelia have not developed the same resistance to bacteria and toxic invasion, and you have all the effects of absorption of profound poisons.

The mucous lining of the small intestine is spread over a very large surface, but in weight its glandular portion would almost equal that of the pancreas, and would be six or seven times as much as the thyroid gland; the importance of its digestive function has been so evident as to overshadow its importance in metabolism. The epithelial cells of this mucosa are probably stimulated to secretion, not only by sympathetic and central nerve control, but quite probably through the bathing of one cell by the secretion of those above. In all probability these substances are transmitted to successive areas of cells through the path of habit and least resistance, the intestinal lumen.

Mayo writes, "To a large extent the digestive system is still controlled by those primitive chemical messengers which Starling has named 'hormones.' * * * Chemical stimulation is undoubtedly the most important factor in the movements of the stomach and intestines, acting as it does directly upon the gastrointestinal muscle fibre, and is the cause of peristalsis."

The carefully conducted experiments of Matthews would seem to establish the fact that the duodenum exerts some influence probably through the agency of the secretion of Brunner's glands, which secretion acts on some other intestinal juices lower down in the bowel, forming an activated substance, which is necessary to life and the absence of which, as Maury so tritely states, ends in "physiologic death."

This protective secretion is furnished by the first 35 cm. of the duodenum of dogs, and its presence in the lower portion of the intestine will suffice to prevent death.

Draper says, "The belief that death in duodenal obstruction is caused by the actual interruption of enteric exchange, seems logical. What had been put together through untold ages of striving by millions of ancestral species, could not without quick fatality, be rudely set apart."

Walter Cannon justly complains, "Certain of us have too long looked upon the alimentary canal as a highly ingenious contrivance of rubber tubes to be spliced and lopped at will." In the same connection Pavlov says, "The digestive process is a synthetic construction, all parts of the organism working together."

Normally, food begins to pass into the large intestine in from two to five and a quarter hours after eating. In the large intestine absorption of liquids and soluble substances readily takes place. Here it is that the bowel contents become solid and fecal; the normal secretions here are strongly alkaline.

When postoperative stasis of this portion of the bowel obtains, the work of Lane and Metchnikoff would seem to furnish some very conclusive evidence that no small part of the pathologic phenomena exhibited is due to the absorption from the colon of the toxic substances resulting from the life activities of the interstinal flora.

Draper says, "The orojejunal regions, which bacterially are almost sterile, have well defined powers to limit the toxemia of obstruction. It is not easy to see why this primitive autogenous function, on the existence of which the interpretation of our provisional results is based, should have been relinquished by the cells most directly concerned, to be turned over to parasitic cells of alien species." He further states, "Emancipation is welcome from the hereditary textbook dogmas of 'nervous influences,' 'shock,' 'stagnation of contents,' and 'passage of bacteria and bacterial products through the stretched intestine.'"

These interesting symptoms should be set aside in favor of the underlying modern conception of glandular interaction, interference with which is probably the fundamental cause of obstructive death. It is recommended, therefore, in cases of obstruction to resort to epithelial medication by giving the

mucosa of the jejunum and ileum by mouth in cases of duodenal obstruction, for experimentally in dogs this prolongs life and lowers the heart beat.

Of the various products of decomposition, lactic acid, indol, skatol, excretin, are most important. The finding of much indoxyl, together with the aromatic glycuronates in marked degrees, is indicative of a high degree of intestinal putrefaction. Glycuronic acid derived from glucose, constitutes an intermediary product of the normal metabolism of the body. It is normal in the urine to the extent of 25 mg. per hundred c.c. This product of arrested metabolism, glycuronic acid is eliminated only when combined with other substances.

Emerson says, "Amounts less than 25 mg. per hundred cc. of urine are excreted, but this amount depends on the quantity of bodies present with which it can conjugate, and not at all on the amount of glycuronic acid formed." It is excreted only when protected from oxidation by conjugation with some body as camphor, or substances which aside from the body, as indoxyl, skatoxyl, phenol, or with certain nitrogenous substances. Camphor greatly increases its elimination. It also pairs with morphine, chloral hydrate, oil of turpentine, menthol. This is probably why turpentine stupes, chloral hydrate, morphine, and the above substances, when taken into the system, assist nature in the elimination of this poison, and thus relieves serious intoxication. The greater the amount of normal physiological oxidation, the less glycuronic acid there will be. The smaller amounts of combines of glycuronic acid will be found when the physiological oxidation of the body is increased, therefore, the necessity of promoting all physiological functions that bring about increased oxidation.

In general septic peritonitis, is it the absorption of the poisonous products within the abdominal cavity, those within the bowel, or the interruption of enteric exchange that produces the group of profound symptoms, causing the outcome which strikes terror to the surgeon's heart and causes such grave apprehension as to the outcome of the case? Heretofore, have we not been all too greatly concerned with the intraperitoneal condition? Let us consider the factors for a moment.

The development of the up-to-date surgical technic renders the dangers of surgical peritonitis, almost nil in the so-called

clean case; but in those in which septic material must come in contact with the injured peritoneum, and those in which there is present at time of operation a peritonitis, some fixed rules of procedure based on scientific knowledge and borne out by sufficient clinical verification, would be of great value to us.

Many writers still claim that the lymphatics communicate directly with the peritoneal cavity by means of small openings between the mesothelial cells, known as stomata. This is positively not the case, for the mesothelial cells of the peritoneal cavity form an unbroken layer over the entire peritoneum; peritoneal absorption and secretion are thus carried on through two layers of cells, endothelial and mesothelial. The law of Wassikowitz obtains with the peritoneum as well as with the skin, for the uninjured peritoneum possesses a certain protective power against bacterial invasion.

It has been shown experimentally, that large quantities of bacteria, even pus cocci, may be introduced into the peritoneal cavity without causing peritonitis, but in the presence of tissue lesions, or serous exudates, the conditions requisite for bacterial growth are furnished. The secretory activity of this immense vascular surface is very great, and its absorptive capacity, especially in the upper abdomen is highly developed, being fully equal in the taking up of certain poisons to direct intravenous injection.

In peritonitis fibroblastic activity is set up more quickly in the peritoneum than in any other tissue of the body; adjacent organs and tissues agglutinate; septic secretions and poisonous substances soon form; bowel stasis to the degree of reverse peristalsis soon obtains, and we have in the peritoneal cavity conditions that make for adhesions and septic encapsulation in highly absorbable areas. Within the bowel we have fecal displacement that promotes bacteriological activities and septic absorption, and suspends enteric exchange.

Anticipating the factors that lead up to these conditions, we forestall them by introducing into the peritoneal cavity a large amount of neutral animal oil, derived from the fats of the omentum and appendices epiploicae of young cattle.

This neutral oil reaches its highest degree of fluidity and lubrication at body temperature of 37.5 degrees C. It fulfills all the requirements of an ideal intra-abdominal lubricant:

It is readily obtainable.

It is neutral in reaction and thus nonirritating to serous membranes.

It is nontoxic to the system.

It is readily sterilized without material change in composition.

It is highly lubricating, thus facilitating easy readjustment of displaced viscera, favoring normal respiratory massage which helps to stimulate early peristalsis.

It is slow in absorption, thus permitting tissue repair before it is taken up by the system.

It is eventually metabolized and thus removed after it has acted out its part.

It facilitates free intra-abdominal gravitation of the septic material from the upper abdomen where it is highly absorbable, to the pelvis, where it is more innocuous.

It markedly inhibits bacterial growth within the peritoneum and by favoring peristalsis promotes enteric exchange and diminishes decomposition within the bowel.

It thus furnishes an ideal menstruum for intra-abdominal use, to prevent postoperative adhesions and sepsis, and to promote physiologic function.

In all septic cases and in those clean cases where any condition of marked postoperative bowel stasis is anticipated, we add to this neutral animal oil, one per cent of laurel camphor to assist in counteracting many of the effects of intestinal decomposition and perverted intestinal physiology with its many toxic substances, notably glycuronic acid, which, by pairing with camphor, becomes detoxicated and eliminated.

Undoubtedly the good effect claimed by O. Hoehne in the use of camphorated oil injected into the peritoneum before laparotomies, is largely due to this same detoxication of the glycuronic acid, as much as to the hyperemia induced in the peritoneum. He states that the resulting exudate in this "antioperative irritation treatment," is gradually absorbed and never induces adhesions.

Vignard and Arnaud state, "The use of one per cent camphorated oil in peritoneal infections, is increasing and shows marked results." Its favorable action is due to the fact that it seems to prevent lymphatic absorption of bacterial toxins and prevents the formation of adhesions, lubricating the loops of intestine, so they do not stick together; minor benefits are its tonic heart action, and its antiseptic properties." They state that it is absolutely harmless.

From Döderlein's clinic in Munich, three cases are reported in which oil was injected into the peritoneum in the treatment of acute suppurative peritonitis, with recovery of two of the patients.

Seibert established the following fact: that 10 c.c. of a 30 per cent camphorated oil, equal to 36 grains of pure camphor, injected hypodermatically, to 100 pounds of human body weight every eight to twelve hours, does not produce symptoms of poisoning; in fact is harmless.

We have seen much in recent literature as to the poisonous effects of camphor. Some experimenters on the other hand, notably, Head and Brooks, of Pittsburgh, claim that camphor injected subcutaneously in doses as large as 50 grains fail to produce any definite effects.

In striking confirmation of many of the recently established facts regarding the physiological effects of camphor we glean from the writings of those master minds of drug action, Hahnemann and Hering, the following: Hering, "All our progress as a school depends on the right view of the symptoms obtained by proving with camphor or with opium." In 1813 Hahnemann in writing to Staph, his most favored disciple, said, "I wish you to try the effects of camphor; it is a divine remedy. The action of this substance is very puzzling and difficult of investigation, even in the healthy organism, *because its primary action, more frequently than with any other medicine, alternates and becomes intermixed with the vital reaction of the organism.*" Regarding its action in influenza, he writes, "It should be given in frequent, but ever increasing doses. It does not shorten the duration of the disease, but renders it much milder, and hence it conducts the disease innocuously to its termination." When cholera first invaded Europe, his "cameo-like" indication for camphor, is most prophetic of our latter day findings, made possible by our highly developed physiological chemistry, our greatly advanced physiology, and our highly perfected surgical technic. "Collapsed state with extreme coldness and paleness of the body surface with internal heat, often bathed in cold sweat, pulse almost imperceptible, marked nausea." How identical is this picture with the case of profound abdominal sepsis and bowel stasis.

With that same positiveness with which Hahnemann and his disciples used camphor in cholera, so we, who have ob-

served the action of camphorated oil in these postoperative conditions, learn to depend upon it to meet and overcome the grave sequelae of general peritoneal sepsis with bowel stasis.

We have put oil in upward of 1,000 abdomens during the past three years; have added camphor when postoperative bowel stasis was anticipated, and with most gratifying results. We will take the time to cite a case, which will illustrate the indications for camphorated oil.

Mrs. J. an Austrian, aged 25, admitted to Flower Hospital, November 29th, 1912. She was a little over three months pregnant, but had been married only about a month; gave a history of severe abdominal pain, and presented a picture, which was diagnosed by the medical staff as one of threatening abortion with local peritonitis. She remained on the medical side for about ten days, at which time the uterus emptied itself of a three and a half months fetus, when she was turned over to the surgical side and came into my service. I found her in profound collapse, cold, clammy, and almost pulseless. The lochia presented no evidence of sepsis; her abdomen was greatly distended; diagnosis, general septic peritonitis.

On opening the abdomen the diagnosis was confirmed. A ruptured gangrenous appendix was found with concretions free in abdominal cavity; virulent pus in large quantities was everyhere present, in both kidney fossae, in the pelvis, in fact generally throughout the entire abdominal cavity. There was free gas in the abdominal cavity due undoubtedly to the colon bacilli. Plastic exudate had formed over much of the peritoneal surface of the intestines and large sheets of exudate covered the upper surface of the liver. The abdominal cavity was hurriedly flushed out with warm half strength saline solution, and 300 c.c. of one per cent camphorated abdominal oil "oleum epiploicum" put into the abdominal cavity, which was closed without drainage. The patient made an almost uneventful recovery, pulse and temperature dropping to normal on fifth day after operation.

In addition to the use of the oil, we attempt, as far as possible to simulate nature's normal conditions. In the upper intestines the reaction is acid, and this acid condition keeps down bacterial growth and putrefactive changes. The presence of acid secretions also in the duodenum stimulates the liver and pancreas to excessive function, causing a profuse pouring out

of bile and pancreatic secretion into the intestine. If reverse peristalsis is carrying bowel contents into the stomach, this is washed early and often with a mild acid solution, preferably the fruit acids.

The rectum is flushed at frequent intervals, followed by retention enema, or Murphy colonic irrigation with alkaline solution, one grain of bicarbonate of soda to the ounce, thus assisting the colon to re-establish its normal alkalinity; this solution is carried by the reverse peristalsis, in this derivative of the hind gut, up into the transverse colon and cecum, from which it is readily absorbed by the radicals of the portal vein and carried to the liver, simulating increased liver function.

The secretion of Brunner's glands, the pancreas, the liver, and the intestinal mucosa are further stimulated by acid drinks for the first 24 hours, followed by orange albumen or acidulated olive oil. The patient is turned early and often, but the greater part of the time is kept in the exaggerated Fowler position, the intra-abdominal oil preventing agglutination. If bowel stasis with distension becomes great, we employ the electric enema of Dieffenbach, according to the technic. As soon as possible the patient is encouraged to frequently get over on all fours to help straighten out intestinal displacement and kinks. As the symptoms of profound sepsis begin to modify, the foot of the bed is raised for one hour out of every six, the arms are extended above the head to elevate the ribs, and thus enlarge the upper abdominal cavity, and the patient requested to take long, deep, full respirations, which results in respiratory visceral massage, which favors normal peristalsis, substitutes an active hyperemia for a passive congestion and helps materially in the re-establishment of normal physiological functions.

In these ways do we combat abdominal sepsis, overcome bowel stasis and facilitate enteric exchange, eliminate the absorbed toxins and products of faulty metabolism, prevent the formation of postoperative adhesions, and by re-establishing normal physiological functions, overcome those factors that tend to ill-health and often dissolution.

Discussion.

Dr. Krauss: We have listened to a remarkable paper, and Dr. Crump ought to be congratulated for bringing to us a

product useful both against adhesions in the abdomen, and against sepsis. The camphor acts on the sepsis, and the oil acts mechanically against adhesions. I cannot wholly agree with Dr. Crump on one point, or rather with Doctor Emerson, whom Doctor Crump quotes as his chemical authority, that g^1, curonic acid comes from glucose. I believe this is a chemical mistake. Glucose is absorbed into the blood, and is carried into the storehouse of the liver and various muscles there to be converted into glycogen, and after partial transformation into fat and with the development of animal heat, is converted into water and carbon dioxid. There does not appear to be any possibility for glycuronic acid to be produced from glucose. I would suggest that my friend Crump look this up. I have an interest in this subject, because Doctor Crump may develop it fully this fall before the American Association of Clinical Research in Chicago. I want to suggest that glycuronic acid is a product more closely connected with the products of carbohydrate putrefaction in the large intestines. It is more nearly allied to the lactic acid and acetic acid series of fermentation products, especially the lactic acid series, than to glucose. Camphor is one of those carbohydrate medicinal substitutes which act as a mother substance for the production of glycuronic acid. I think this is a great subject, and I hope that Dr. Crump will meet with all the success which he deserves.

I wish also to call attention to the fact that the liver not only secretes bile, which goes to the function of digestion, but it also excretes a product, cholesterin, which goes to make up the feces. This excretion comes from the blood and is separated from the blood fluid by the liver. All the excretions come from the blood, and all the secretions come from glands and secretory membranes. Secretions and excretions are altogether different products. Another thing: If kidneys allow only 35 ounces of urine to pass through, the fact would indicate danger to a certain extent. There ought to be more nearly 50 ounces of urine passed through the kidneys in a 24 hour period of time.

Dr. Mills: I know that I am not competent to discuss this paper, but I want to express my appreciation for it. Just one suggestion: we all who have anything to do with the peritoneum, know how easily it is injured. In packing gauze into the abdomen for the purpose of walling off an apepndix, or an abscess which we wish to open, you will notice in withdrawing the gauze how the peritoneum has become enmeshed in it. It is I think, the trauma, the breaking of the fine epithelial covering of this most interesting membrane, that gives an excellent chance for the absorption of germs. Is it not possible that the great advantage that comes from the use of the oil, the olive

oil which some have been using, or this animal oil of the Doctor's—is it not possible that this oil will coat over the little broken surfaces, and seal them up, so that they will not absorb the infection which is present?

Dr. Barnard: I was very glad to hear this paper. I became interested in this oil sometime ago, having read a Boston paper on the subject, and it came to me at an opportune time. I had a case of adhesions which was bothering me a great deal, and the suggestion filled me with hope. I operated on the case and relieved the condition very materially. In another case I attempted to relieve the condition but failed. This patient died about five days after the operation, and we found the oil still present in the abdomen. It had not been absorbed. This was simply the sterile olive oil. The presence of the oil five days after operation showed the slow absorption, and the chance it has of keeping up lubrication of the intestines, and thus preventing the formation of adhesions.

Dr. Crump (closing the discussion): There is very little more that I want to say. I have been using either olive oil or this animal oil for some six or seven years or a little more, and they dub me now the "junk" surgeon. Joe Price says that junk surgery has a mortality which very few surgeons can stand. The younger men cannot do it, and this fortunately leaves it to the older men to undertake it. Of course I live in a large city where the mortality is not known, and while we have some mortality we can stand it in a larger city better than we could in a smaller one. Still it is perfectly remarkable to me how you can take these old cases, that have had four or five previous laparotomies, everything adherent, which you would have undertaken years ago with a good deal of fear and trepidation; but now that we have learned to use the oil, especially camphorated oil, we have very little fear. I especially enjoy fussing with them. In these old cases which come to me by the thousands, gastro-enterostomies, entero-enterostomies, all sorts of things, with resulting fecal fistulas, which a few years ago I would not have dared undertake to operate, now with the use of this oil we open up the abdomen, break up adhesions, resect the bowel, sew up openings in the intestinal tract, fill up with oil, and we have very little trouble.

In the early days I used oleomargarin oil, and I had a case which I had to operate five or six weeks after. I found several ounces of the oil in the abdominal cavity. I took it out carefully, put it in a bottle and sent it to a chemist, asking him to tell me the difference between the oil put in the abdomen in the first place, and that found some weeks after. He said that the difference was the stearin. He was then told to take out the stearin, as I wanted oil more quickly absorbed.

Dr. Clark: We have been taught that camphor is an antidote to homœopathic remedies. Do you find any trouble in the use of camphorated oil?

Dr. Crump: I continue to prescribe homœopathically for surgical cases, and I have often done work for men who are high potency men, the men who especially look upon camphor with disfavor; but since following up the literature I find that we have here a chemical condition to meet. I prescribe the various remedies right along with good result.

Bureau of Clinical Medicine.

THE INFLUENCE OF DISEASE IN MODIFYING THE SECRETIONS, EXCRETIONS AND FLUIDS OF THE BODY.

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In a paper on *Disease Conditions Expressive of Correct Diagnosis* which I contributed to the Third and Fourth Annual Sessions of the American Association of Clinical Research, I classified disease as developmental, traumatic, and infectious. Today, it is my privilege, at the request of the chairman of this Bureau of Clinical Medicine, to show the influence of developmental, traumatic, infectious diseases on the secretions, excretions and fluids of the body, a truly formidable subject to cover in a short space of time. That this will be done, therefore, more or less cursorily will nevertheless, I trust, not interfere with a clear understanding of this somewhat rarely approached aspect of pathology.

I.

There are two kinds of *secretions*: first, *membranous*—serous, synovial, labyrinthine, cerebrospinal or meningeal—for more or less mechanical purposes; and, second, *glandular* for nutritional purposes. The intermuscular fluid is a transudation from the blood, not a secretion or excretion.

The *duct glands*—salivary, gastric or peptic, pancreatic, hepatic, intestinal, mucous, sebaceous, ceruminous, Meibomian, lachrymal, lactic—furnish *external secretions*, which are discharged by the glands to perform respective functions and are then taken up in a more or less modified form by the blood. I do not include the lymphatic glands because they are not se-

cretory glands in the true sense. Both the lymphatic glands proper and the lymph follicles give off to the lymph that passes through them lymph corpuscles that are to become the white blood corpuscles. But this is not the complete character of a true secretion, external or internal. The *ductless glands*—the adrenals, the thyroid and parathyroid, the thymus, the hypophysis or pituitary body, the pineal gland, the spleen—furnish only *internal secretions*. These, as well as the internal secretions of certain duct glands—the liver, the pancreas, the testes and ovaries, the prostate and mamma, the parotid and the kidneys—are not discharged outside their respective glands, but are taken into the circulation from the tissues of the very glands in which they are produced.

True secretions are formed in this way: The blood furnishes the water and the inorganic elements. The epithelium of the scretory glands and membranes furnish the characteristic epithelial elements. No organ other than the special glands and membranes provided with secreting epithelium can produce a true secretion. Secretory glands and membranes may produce more or less secretion, but in the absence of their secretory functions there is no secretion. And when there is no secretion we cannot speak of a retention of products of secretion as we can in case there is no elimination of excretions by way of the excretory channels. To a small degree, excretory matter may be eliminated by secreting glands when the excretory glands have ceased to act, but the excretory glands cannot assume the functions of secretory glands.

Pathological disturbances of secretion, therefore, are attributable to changes in the blood, to changes in the secreting membranes and glands, and to vicarious excretory function of secreting organs and tissues: hypersecretion, hyposecretion, absence of secretion, vicarious excretion.

II.

As the secretions, so the *fluids* of the body are of two kinds: *productive* and *reproductive* fluids. Both kinds contain the distinguishing characteristics of true fluids of the body, self regenerating anatomic elements, which both the secretions and excretions of the body normally lack.

The productive fluids—the blood, the lymph, the chyle—are permanent constituents of the organism with the power of

self regeneration. All these contain leucocytes derived from leucoblasts. The blood contains also erythrocytes derived from erythroblasts.

The reproductive fluids—the male seminal fluid and the female Graafian fluid—are less permanent constituents of the organism, but like the productive fluids have real anatomic elements, the spermatozoa and ova, which between the periods of puberty and climacteric manifest solid tissue changes of growth, deterioration and regeneration.

To understand the pathological disturbances of these fluids, we must remember that the nervous system presides over all the activities of the body, hence also over secretion, excretion and fluid action. The vasomotors and vasodilators govern the blood supply. The composition of the blood governs the activity of the various membranes and glands concerned in secretion and excretion. The organic and inorganic products of food entering into the composition of the blood are in their turn modified by the secretions, and the products of secretion and excretion enter into the circulation of the blood.

The *blood fluid* carries the history of food and tissue metabolism, of proteogenesis and proteolysis, glycogenesis and glycolysis, lipogenesis and lipolysis, of plasmogenesis and plasmolysis, cytogenesis and cytolysis, nucleogenesis and nucleolysis. The blood fluid carries the history of digestion, absorption, circulation, assimilation and disassimilation. The blood absorbs alimentary products through capillaries, veins, lacteal and lymphatic vessels; liquids by way of the skin, the respiratory organs, glands and closed cavities, areolar and soft tissues; gases by way of the pulmonary surface, and the effete or excretory matters through the interstices of the tissues.

The inorganic substances, water and inorganic salts, enter with the organic matter as mechanic and dynamic aids of digestion, absorption, assimilation and disassimilation, and, with the organic excrementitious matter, pass out of the organism by way of the urine, the sweat, the feces, generally in the form in which they have entered.

The organic nitrogenous substances, the proteins, are digested into albumoses and peptones, are absorbed into the blood as serum albumin and serum globulin, the essential nutrition carriers of the blood. After being assimilated and disassimilated by the blood, the liver, muscles, brain, milk, lymph

and other fluids and tissues of the body, are decomposed into nitrogenous, aromatic and fatty groups. The nitrogenous group consisting chiefly of urea and ammonia derivatives, and the aromatic group, containing an aromatic radical, such as tyrosin, are eliminated with the urine. The fatty group is eliminated as carbon dioxid through the pulmonary alveoli. Proteins may replace carbohydrates and fats to a certain extent.

The carbohydrates, the starches and sugars are digested into maltose and dextrin, are absorbed into the blood as glucose, carried into the liver and there converted into glycogen and fat. In the liver substance, the glycogen is gradually reconverted into glucose. That part of the glucose that is not destroyed by the pancreatic ferment in the hepatic circulation is sent into the general circulation by way of the hepatic veins, carried to the muscles, which convert it again into glycogen and fat, carried to other tissues, and, after partial transformation into fat and the development of heat, is finally eliminated as carbon dioxid and water through the pulmonary alveoli and in the veins. Carbohydrates cannot replace protein, but may produce fat. Carbohydrates absorbed in a form that cannot be converted into glycogen, as maltose, lactose, pentose, saccharose, etc., are straightway eliminated in the urine. Glucose is eliminated only when there is hyperglycemia, when the blood contains more than three pro mille of glucose.

Fats are digested into fatty acids, glycerin and fat emulsion, are absorbed as fat by the lacteals and as liquid fat by the blood vessels, are deposited on the surface of organs and tissues in the form of adipose tissue and within the substance of organs and tissues in the form of fatty granulations, the remainder being consumed with development of heat and eliminated as carbon dioxid and water through the pulmonary alveoli and the kidneys. Fat can produce only fat and, therefore, cannot replace either carbohydrates or proteins.

The unabsorbed portion of proteins, carbohydrates and fats undergoes putrefaction. The intestinal bacteria, acting on proteins, produce albumoses, peptones, leucin and tyrosin, ammonia, indol, skatol, phenol, paracresol, mercaptan, sulphuretted hydrogen, carbon dioxid, methane, hydrogen, etc. The bacteria, acting on carbohydrates, produce lactic acid and acids of the acetic acid series, acids which have lately caught the

attention of some of our cancer investigators, but not to much purpose, I believe. The bacteria, acting on fats, produce glycerin and fatty acids. Some of these putrefactive products are absorbed from the large intestines. Their absorption into the blood gives rise to the condition known as *intestinal auto-intoxication*, with symptoms of malaise, constipation, headache, lassitude,drowsiness, dizziness, foul breath, muddy or icteric skin, loss of appetite, impaired digestion, faintness, palpitation of the heart, neuralgic pain, etc., so commonly met with in general and special urinary practice; for these putrefactive products are eliminated from the blood almost entirely by way of the kidneys. The absorption of intestinal bacteria, especially of the bacterium coli commune, leads to *bacteremia*, *bacteriuria*, and to the not infrequent condition of *enterogenous infection* and *intoxication* of the blood and urinary tissues and fluids.

In nonassimilation of food and water from the circulating blood, the tissues feed on themselves; the decomposition of blood plasma, blood corpuscles, secretions, fat, muscle, glands, spleen, liver, nerves, heart, etc., leads to tissue waste absorption, to the various *histogenous auto-intoxications*, such as the acidoses from plasmolysis, the uricacidemias from nucleolysis, the states of hyperthyroidism, myxedema, pancreatic diabetes, Addison's disease, acromegaly, etc., from more or less destroyed tissues of secretory glands. Diacetic acid, oxybutyric acid, uric acid, the purin bodies, the xanthin bases, etc., appear in the urine as a result of histogenous autotoxemia.

Thus we face the important fact that, while the blood is the central fluid of the body, carrying the vital and offensive products of nutrition, the real index of what is going on within the system is given by the fluids of excretion and by none more conclusively than by the urine; and in considering the pathological disturbances of the blood fluid especially, but also of the other productive and reproductive fluids of the body, the effect of the excrementitious substances within the blood must never be lost sight of. These excrementitious substances cause not merely the enterogenous and histogenous toxemias we have already noticed, but by reabsorption of these excrementitious substances after their elimination into their reservoirs and their retention there because of obstruction, we have a further series of *toxemias*, *cystogenous urinemia*, *hepatogenous chol-*

cysteremia, reabsorption toxemias marked by fever, sepsis, icterus, urinous and cadaverous odors.

Pathological disturbances of the body fluids are attributable to changes in the nervous system, to changes of the organs and tissues concerned in the production of these fluids, to food and tissue metabolism, to the processes of digestion, absorption, assimilation, and elimination.

III

Excretions are altogether different from either secretions or the true body fluids.

Unlike the secretions, which are produced in the secretory glands and membranes, the excretions are not produced in the excretory glands and membranes. The kidneys, the liver, the sweat glands, the pulmonary alveoli merely separate the excretions from the blood, where the excrementitious materials—urea, ammonia derivatives, aromatic, unconverted carbohydrates and fat, inorganic salts, water, carbondioxid, putrefactive products, such as ethereal sulphates, albumoses, tissue wastes and acids, organic and inorganic products and bacteria—are ready formed for elimination. This elimination must be constant, day and night without interruption; otherwise there is an accumulation of katabolic products in the blood with consequent intoxication, and we have autotoxemias of a different type from those hitherto considered under alimentary, tissue, and reabsorption toxemias. These *retention toxemias*, among which we may enumerate uremia, cholesteremia, carbonic acidemia, result not from the nonproduction nor necessarily from overproduction, but from the nonelimination of normal katabolic products due to interrupted activity of the excretory glands and surfaces. Unlike the secretory glands, which have periods of discharge and periods of repose, the excretory glands must be in constant activity, and the degree of their eliminating function becomes, therefore, of most vital interest.

Once more it must be emphasized that the excretions give the real index of what is going on in the system. Unlike the true fluids of the body, the excretory fluids are neither productive nor reproductive, contain no self regenerating anatomic elements of their own, but only such substances as have pre-existed in the blood and such as the excretory fluids sweep along with them in their passage through the excretory structures.

The most important excretory fluid and, therefore, the most important diagnostic fluid of the body is the *urine*. The urine contains water and most of the excrementitious substances existent in the blood. The urine tells what the organism uses and does not use, whether the blood carries normal or abnormal constituents; whether the kidneys are acting normally or abnormally; whether urinary or extra-urinary tissues are involved; whether the excretion is defective or excessive; whether normal to the economy and normal or abnormal to the urine; whether abnormal and foreign to the economy and abnormal and foreign to the urine.

Urea depends upon the diet, especially of nitrogenous food, or is derived from tissue metabolism. Uric acid is derived partly from the purin bases of food and partly from tissue metabolism, nucleolysis, as also the other alloxuric bodies or xanthin bases, xanthin, hypoxanthin, adenin, guanin, carnin, are derived partly from food and partly from tissue metabolism. Creatinin is derived partly from meat in food and partly from the tissues, mainly the muscles. Oxalic acid is derived partly from a vegetable and fruit diet, as rhubarb and lemons, and partly from tissue metabolism. Hippuric acid is derived partly from a fruit diet as apples, pears, plums, berries, and partly from disintegration of albuminate bodies. Leucin and tyrosin are derived from proteins and appear in the urine because of hepatic deficiency, deficient tissue metabolism, intestinal protein putrefaction. Inorganic sulphates are derived in part from the food and in part from the metabolism of tissue proteins. Aromatic sulphates are derived from decomposition of protein matter, largely in intestinal putrefaction. Cystin is derived from insufficient oxidation of the proteins. Chlorides depend on chlorides in the food. Phosphates are derived largely from the food, both animal and vegetable, and partly from lecithin and nuclein metabolism involving especially nerve tissues. Pigments are derived from the blood and the bile and partly from the food. Fat is derived from food or fatty degeneration of the tissues. Sugar is derived from food, the assimilable in the form of glucose and levulose, the unassimilable in the form of maltose, pentose, lactose. Serum albumin, in physiological conditions, appears in the urine as a result of diminished coagulability of the blood, and, in pathological conditions, as a result of renal epithelial lesions permitting the

transudation of albumen into the urine. Cellular albumen is derived from blood or pus or epithelial cells of some diseased portion of the urinary tract or of some extra-urinary lesion connected with the urinary tract. Albumose is derived from disintegration of pus cells outside the urinary tract, retrograde metabolism of albuminous tissues, and, within the urinary tract, from the spermatic fluid.

In making urinalysis, such as I like to make and do make in practice of genito-urinary medicine and surgery, and such as ought to be made and will be made as soon as the profession and the laity realize that a proper urinalysis requires brains rather than test tubes and that the expenditure of interpretative brain energy involving an analytic and synthetic knowledge of physiology and pathology deserves a higher wage than the work of a street laborer and should be paid for, in such urinalysis made upon material indications and not as a matter of stereotyped routine, we must carry the considerations here given and many others implied into effect, to obtain the real, the profound value of the urine as the main excretory fluid of the body. The fecal fluid contains the single excretion of cholesterin separated from the blood by the liver. The other ingredients of the feces—undigested remnants of food, unabsorbed secretions, fermentative and putrefactive products, bacteria—relate to the process of digestion and are comparatively unimportant as an index of nutrition and circulation. The sweat, important as it is as the one excretion which, to a certain extent, can be made to take the place of the urine vicariously when the kidneys refuse to act, cannot, consisting as it does mostly of water and fat, assume the position of a practical guide in the estimation of what is going on within the body. The breath carrying the carbon dioxid separated from the blood in the pulmonary alveoli cannot be used as a practical index of nutrition and is not needed, for when carbohydrates are in excess glucose is eliminated in the urine as well as the derivative carbon dioxid in expiration. When fat is in excess or in degeneration it finds its way into the urine rather than as carbon dioxid into the pulmonary alevoli. It cannot be too strongly urged that the urine is the most important excretory fluid of the body, and, for diagnostic purposes, it's more important even than the blood.

Pathological disturbances of excretion must be attributable to faulty food and tissue metabolism, to faulty composition of the blood, to changes in the excretory tissues and passages.

IV

In concluding, then, we must say that developmental diseases, characteristic as they are of metamorphosis and metabolism, traumatic diseases, extending over the somatic and psychic states, and infectious diseases, both those of venereal and those of nonvenereal origin, naturally impress themselves upon secretions, excretions and fluids of the body as they impress themselves upon the solid tissues, namely, in four ways: topically, plastically, trophically, toxically.

Topically, we have local and general accumulations and defects.

Plastically, we have the composition and decomposition of ingredients.

Trophically, we have the atrophies and hypertrophies.

Toxically, we have the cytotropic, plasmatotropic, crystalline and amorphic, as well as hyprotropic inflammations, exudations, necroses.

No detailed enumeration will be attempted. The many diseases that fall into the line of our considerations will suggest themselves to those conversant with the anatomy of the organs concerned in the production of the secretions, excretions and fluids of the body, their physiology and pathology.

PREVENTIVE MEDICINE.

GEORGE PHILLIPS, M. D., DENVER, COLO.

Webster's dictionary gives the definition of the word medicine as follows. "The science which relates to the prevention, cure or alleviation of disease." This makes prevention of first importance, which it undoubtedly is. If not, why the universally accepted maxim, "An ounce of prevention is worth a pound of cure?"

From the beginning of our art, the prevention of disease has been regarded as of the first importance. The first and most important discovery in the way of prevention of disease and death, was the discovery by Dr. Jenner, of vaccination for the prevention of smallpox. Up to this time and long after-

ward smallpox was the most deadly and destructive of all infectious diseases.

Little did Dr. Jenner think, when he was promoting the theory of protecting the people against the most dangerous disease known, by inoculating them with a crust from a cow's udder, that he was laying the foundation for the most important discovery ever made in medicine. But such was the fact. For out of his wonderful discovery has grown the far greater and more important one, of the bacterial vaccines for the prevention and cure of almost all the most deadly infectious diseases.

The list includes tuberculosis, typhoid fever, diphtheria, tetanus, erysipelas, pneumonia, puerperal sepsis, mastoiditis, malignant endocarditis, acute tonsilitis, and a variety of suppurating infections.

Tuberculosis.

The success attending Professor von Behring's efforts to immunize cattle to tuberculosis attracted the attention of investigators. Bullocks are now rendered immune to tuberculosis by repeated inoculations of an emulsion of virulent tubercle bacilli. This produces a reaction similar to that produced in the horse by the standard method of making antidiphtheritic serum in the horse.

When immunity has been fully established the animal is killed. The lymph contained in the thoracic duct and other lymph reservoirs is collected. An aqueous extract is made from the lymph glands, the spinal cord and brain. These fluids are combined and filtered under high pressure and de-albuminized by succussion.

A definite proportion of naturally phosphorized brain fats is added, with a small amount of chloride of gold as a preservative. From ten to twenty minims of this antituberculous lymph compound is injected subcutaneously once per day. This vital cell tonic is claimed to so strengthen the defensive blood cells, the phagocytes, and antibodies, as to immunize the person to the tubercle bacilli, and eradicate these bacilli from the body as late as in the second stage of tuberculosis.

Despite the optimism which seems to pervade medical men and a large portion of the laity regarding the possibilities of wiping out tuberculosis, the fact still remains that nothing

short of an upheaval of our social system will eliminate the economic and social causes which are as large factors in the causation of this disease as is the actual invading microorganism. As long as tuberculous individuals, in the last stages of the disease, are permitted to roam about, coughing, sneezing, spitting and spreading within their zones countless bacilli capable of infecting others, there will be dissemination of the disease. As long as invalids suffering from this disease are allowed to remain at home, without adequate supervision and nursing care, there will be continued infections within the family. At the present time hospital facilities are woefully inadequate either for the incipient cases or the more advanced.

Inasmuch as tuberculosis may largely be regarded as a disease of the home, much interest attaches to the new department under the auspices of the New York Association for Improving the Condition of the Poor. They are to attempt to reduce the mortality from tuberculosis in dependent families, where this disease appears to be the main factor for the dependency, by transporting the entire family to specially constructed tenement houses which are in reality to be regarded for the purposes of the experiment as a home hospital. The families will be placed under efficient medical direction; competent nursing will be afforded; sufficient food will be provided; an abundance of fresh air, sunshine and cubic space will be at hand to enable the families to have the best opportunity for escaping infection and for restoring to health the tuberculous member of the household.

It will take several years to appreciate the value of this type of campaign against the disease, but it represents theoretically a more rational and hopeful procedure than is the present all too dilatory method of endeavoring to supply hospital facilities.

The patients will not be permitted to work save on the advice of physicians, and the family will be kept under constant supervision until the wage earner is fully restored to health, if that is to be the result, and the family actually becomes self-supporting again. In addition to these precautions the children of these families will receive their education in open air schools.

This entire plan is most commendable and thoroughly in accord with modern progress in sanitation and hygiene. If

tuberculosis is ever to be eliminated, the problem must be attacked in the home. The essential prevention of the disease will never be reached until living wages and living conditions are procured. This means not merely an attack on the disease within the home, but an agressive campaign against the predisposing factors which exist throughout our entire social, economic and industrial system.

Typhoid Fever.

Typhoid fever has proven itself to be such a destroyer of human life, especially of soldiers in time of war, that it has been given the name of military fever. In the Franco-Prussian War, typhoid fever alone produced 60 per cent of all the deaths, while in the Boer War it caused nearly six thousand deaths, as compared with seven thousand five hundred resulting from the numerous bravely contested battles, while other diseases caused five thousand more.

Thus it would seem that even in these modern days of deadly war equipment, the little unseen bacilli and sewage are mightier than the sword.

From the published reports of the United States Army we find a discussion of vaccination against typhoid fever in the American Army. Included in this you will find a discussion of the occurrence of typhoid fever among the troops on the Mexican border. We find also that there were no deaths from typhoid among any of the troops mobilized in Texas.

From these reports we learn that, during the past three or four years, the immunization of the soldiers in the United States Army has been adopted generally, in fact has now been made obligatory by general order.

Dead cultures of typhoid bacilli, as prepared by the army laboratories are injected subcutaneously to produce immunity. The first dose is 0.5 c. c.; the second and third being 1 c. c. each. An interval of ten days is allowed between treatments.

There was practically no puncture infection, and the reaction was mild or absent in 90 per cent of the cases treated. In no case was it followed by serious results. This report is from 8,097 men immunized. Our entire army of observation in Texas on the Rio Grande river numbering 12,000 men of all arms, were given this immunizing treatment; they were in camp four months. Surprising as it may seem they only had

one case of typhoid fever during their stay, and that was a mild one.

A most astonishing contrast with this report is the fact that during the Spanish-American War in the summer of 1898, we had an army of 12,000 men at Jacksonville, Florida, the same number first reported in Texas last year for the same length of time.

Both camps were supplied with artesian water and were otherwise very similarly situated. During a four months' stay of the army at Jacksonville, Florida, they had 2,693 cases of typhoid fever and 248 deaths.

The report goes to show that the number of cases and deaths from typhoid fever at Jacksonville, Florida, was not unusually large for that number of men during four months. No deaths and only one light case in the one instance and 2,693 cases and 248 deaths in the other is a most astonishing result and contrast.

It must be remembered that at the time of the Spanish-American War vaccination against typhoid fever was not known. It seems to me this remarkable result ought to be sufficient to induce physicians everywhere to immunize the people against typhoid fever, the same as they do now against smallpox.

The more than 1,000 deaths in Illinois reported to the State Board of Health during the year 1910 caused by typhoid fever, is no great credit to the physicians of the State, especially when we have a certain, safe, and sane preventive.

Malaria.

Malaria and yellow fever have destroyed more human beings than all the wars that ever devastated the globe. The discovery of a preventive and cure of these and other deadly diseases which have scourged and almost depopulated the earth's surface from time to time, during all its history, equals if they do not surpass in importance the classic discovery of fire, ships, wheeled carriages, steam, gunpowder and electricity.

Malaria has ever been and is yet the greater barrier against the invasion of the tropics by the white races, and has caused a pall of dread to hang over the entire west coast of Africa.

Coming nearer home we are familiar with the fact that the Isthmus of Panama was so infected with malaria and yellow fever as to be the principal cause that prevented the French from completing the ship canal they attempted to build, and many sections of our own country have been practically uninhabitable from the same cause.

All kinds of theories as to the cause of the curious periodical seizures of ague were proposed, until in 1880 Laveran, a French army surgeon stationed at Algeria, announced the discovery in the blood of malaria patients, of an organism which at first bore his name, the hematozoon Laveran, now known as the plasmodium malaria.

This little organism curiously enough made its home in the red corpuscles of the blood. At periods of forty-eight hours it ripens a crop of spores, which burst out of the corpuscles scattering the spores throughout the blood, producing the famous and hitherto inexplicable periodical paroxysms.

Being an animal, the plasmodium would not grow upon culture media as do the bacteria. Its origin was unknown until 1895, when Dr. Roland Ross, of the Indian Medical Service discovered the anopheles mosquito in possession of the goods, having the plasmodium undergo a cycle of its development in her body, ready to be expectorated at the first favorable opportunity for a bite into the cuticle of humans. It was soon discovered that Dame Mosquito obtained her supply of plasmodium by extracting it from persons suffering with malaria fever.

Now that the cause and source of the disease was discovered, all that was left to be done was to keep this particular mosquito away from the people who had malaria, and when she did obtain a supply of the little bugs from some unfortunate sufferer, then to keep her away from other persons who did not have the disease.

This is easily said but looks hard to do, and yet by draining ponds and marshy lands, emptying out the rain water barrels and other containers of stagnant water, and applying a liberal supply of crude petroleum to all places where stagnant water still remains, the breeding of mosquitoes is quite effectually prevented, and by a free use of screen wire cloth and mosquito net, the necessary separation may be effected.

By an industrious use of these means the Isthmus of Panama has been rendered so healthful that the sixty-five thousand people our government has under its care and protection there enjoy about as good health as they would in the temperate zone, no case of yellow fever having ocurred there in several years, and but little malaria.

The same methods applied by our generous government to Havana and other large towns in Cuba have made health and pleasure resorts of them, in place of the festering and breeding places of the most deadly diseases as they were before the occupation of that country by the United States Government.

I will not trespass further on the valuable time of this society to speak in detail of diphtheria, the modern Moloch of childhood, and how it swept off the youth of all lands like the Black Death of the Middle Ages, until in 1884, when the Klebs-Loeffler bacillus was discovered.

A little later antitoxin was worked out and soon came into general use, snatching as it did from the bloody jaws of this dreadful beast enough precious young lives to reduce his quota from fifty-five per cent of the cases down to sixteen per cent and still the good work goes on, until in 1910, only 331 deaths from it were reported to our State Board of Health of Illinois.

Neither will I dwell upon the fact that when our government took possession of the Philippines it was met by an army of germs far more dangerous and deadly than their uniformed soldiers. Asiatic cholera, beri-beri, bubonic plague, leprosy and other infectious diseases all flourished in unhampered luxuriance, having had full possession of those islands for hundreds of years.

By the rigid application of scientific sanitary rules and methods in that country, enforced by military authority, those dreadful localities have been made healthful and delightful.

Last in the series, but not least in importance I mention Ashford and King, who discovered and destroyed the hookworm in Porto Rico, relieving a half million persons of a most loathsome disease, and furnishing as they have, immunity from said disease for all time to come, to those interesting island dwellers.

All honor then to the medical profession. Truly, there is no more honorable, useful, or noble calling men or women can engage in than is ours.

Rocky Mountain Spotted Fever.

Horses are susceptible to spotted fever if the virus of guinea pigs is injected subcutaneously and instravenously. The fever usually takes a mild course, and the temperature is not exceedingly high. Normal temperature appears again after seven to nine days. It would be interesting to allow infected ticks to bite horses and determine whether the disease can be communicated in that way. The serum from horses recovered from spotted fever has a protective value. The potency is largest after about twelve days from the time of the reappearance of normal temperature. Repeated injection of spotted fever virus increases the potency of the serum materially, but does not produce a second attack of spotted fever. The serum can be concentrated by the method practiced in concentrating diphtheria antitoxin. The gain in potency may be ten times the original value. The pseudoglobulin fraction of blood serum contains the bulk of antibodies in immunized horses.

Ophthalmia Neonatorum.

'Tis said that darkness comes before the dawn, but there is one form of darkness following which there is no dawn, and that is the blindness resulting from ophthalmia neonatorum. The importance of this disease may be readily appreciated from the fact that 40 per cent of all blindness may be attributed to this single cause. In the United States there are from 6,000 to 7,000 persons totally blind from gonorrheal ophthalmia. This is not inclusive of those suffering from the economic losses due to partial blindness. The official Census of the Blind in New York State showed that there were 6,200 blind persons in the State, and that 32 per cent of them became blind from this single preventable cause. At the Pennsylvania School for the Blind 33 1-3 per cent of the admissions for the years 1900 to 1907 was due to ophthalmia neonatorum. A partial census made in Masachusetts of the practice of 173 physicians in nine cities, showed an average morbidity rate for ophthalmia neonatorum of 10.8 per cent per thousand births. One two-hundredth of all the births registered in New York State during 1906 represented the toll of blindness due to infection by Neisser's bacillus.

In cold monetary terms, the average to the State of a person blind from birth is $10,000. The adequate utilization of this amount of money would prevent a tremendous amount of blindness. The economic necessity of spending money for the preservation of sight instead of endeavoring to make an impossible atonement for such disability, must be patent to all who still possess full vision. Ophthalmia neonatorum means dependence, because the ability to earn a living will never be normal. A skilled laborer with 75 per cent normal vision, or an unskilled worker with 50 per cent normal vision suffers comparatively slight loss of earning capacity, but blindness *in toto* means inability to take part in the work of the world.

In various countries ophthalmia neonatorum is classed among the communicable diseases which must be reported. Particular attention has been given to this phase of the reportability of the disease in connection with the work of midwives, although why equal importance has not been given to the relation of physicians to this disease is not quite understandable.

In the United States, legislative measures were first introduced for the purpose of discovering ophthalmia neonatorum in the State of Maine. In 1892 New York extended its laws so as to cover the practice of midwives and nurses, while the present birth certificate includes a query as to what preventive was used by the attendant in order to eliminate the possibility of the occurrence of the disease.

The State health authorities of Massachusetts, New Jersey and Vermont are authorized to supply prophylactic material to physicians for use in their obstetric work. Rhode Island, New York and the District of Columbia are also now prepared to issue such prophylactic outfits to doctors, midwives or nurses who may desire them.

The Credé method of treatment has been found to be effective in preventing ophthalmia neonatorum and there is little excuse for any obsterical attendant failing to make use of the 2 per cent silver nitrate solution.

From an investigation in New York City of the cases of ophthalmia neonatorum which occurred during a single year, it is regrettable to find that the disease was more prevalent in the practice of physicians than among midwives.

One of the principal reasons for this condition in the practice of physicians lies in the fact that midwives of the city are under supervision and partial control, and are obliged to call in a physician as soon as any evidence of sore eyes is noted in the new born child. Midwives are also obliged to use the prophylactic outfits which are supplied by the Municipal Department of Health. The medical profession of the city is not under obligations to make use of any preventive measure, nor are the practitioners answerable to the Health Department for failure to take adequate means to prevent the occurrence of this disease. It seems desirable to extend our legislation so as to make it mandatory upon all obstetrical attendants to use some solution in the eyes of the new born child for the purpose of preventing infection.

While this use of Credé's method is palliative to the extent of lessening the likelihood of ophthalmia neonatorum, the real cure goes back to the social conditions which are responsible for the existence of gonorrhea in the general mass of patients. Laying all stress upon the Credé method, and failing to recognize the causes which lead up to the disease, is partially responsible for the slow movement for the conservation of vision, the greatest progress of which may be made during the first days of life.

Ophthalmia neonatorum is a preventable disease. The responsibility for its prevention is medical and social. The medical profession should fulfil its part in eliminating blindness, without being subjected to humiliating legislation compelling physicians to perform their duty.

Elimination of Lockjaw.

It is claimed by Benjamin that lockjaw, due to puncture and injuries, can be entirely eliminated and the death rate from this disease reduced to nothing. He has never had lockjaw develop in one of his patients, including about 10,000 injuries of all kinds, among them rusty nail and other punctures of feet and hands. This was accomplished in a locality where lockjaw is endemic, twenty cases having been reported in one year. He says:

Sterilize the field of injury, especially the deep edges of the wound. Large and open wounds are irrigated. The vast majority of cases of lockjaw, however, develop from punctured wounds. Insert a

few drops of alcoholic solution of cocain. Have on hand variously sized screws. The threads should be at an angle of about 25 degrees to the axis of the screw, and thin. A set of screws should range from the size of a small probe to 5-16 of an inch in diameter, so as to be ready for all sized wounds, such as nails, pitchfork tines, dog teeth, and so on. In the absence of these special instruments, however, one can often use an ordinary aluminum applicator, which has threads on; or one can procure from any hardware store ordinary screws, which answer very well for many cases. Dip the sterilized screw into an antiseptic solution, say, two or three per cent lysol. The liquid is held by the spiral gutter. The screw should be of a size to follow the track of the wound easily. If the skin is hard (like the sole of the foot) and the wound entrance is tightly contracted, it may be nicked with the point of a knife. As the screw is being inserted it is kept turning but held back, so that by the time it has reached the bottom it has been turned enough to have carried it more than twice as far. It is now given a few more turns. In this way foreign substances and microbes are lifted (screwed) out. The instrument is then pulled out and washed in an antiseptic; then dipped in tincture of iodin, if not a large puncture, and then forced down to the bottom of the wound and given a few turns backward. Then the screw is dipped into carbolized oil (1 minim of carbolic acid to 14 of pure oil) and pushed gradually to the bottom of the wound, turning backward, then unscrewed out. These antiseptics have the property of permeating the surrounding tissues. Dress the wound in the usual antiseptic manner. No germs will live in that wound.

Benjamin says even when he has immunized with antitoxin, this local treatment should be used in all punctured and Fourth of July wounds, for the good reason that it not only prevents lockjaw by killing the bacilli, but is equally efficacious against streptococci (blood poison and erysipelas) and staphylococci (abscess and inflammation).

Alcoholism.

Under the head of preventive medicine I desire to call the attention of this society to another source of disease and death which is a greater curse to this country than all others put together.

It is a subject which lies very heavily upon my mind and heart. I agree in the very beginning that my argument shall be neither on the moral nor political side of the subject, but strictly professional and scientific.

We all know that alcohol is neither a medicine nor a food. That question has certainly been definitely and positively set-

tled. After the most exact, unprejudiced, painstaking research work, from all angles, the very last word of science is that alcohol is a poison, nothing more and nothing less.

It is found to be a hydrocarbon of the formula $C_2 H_6 O$ that is produced by the process of fermentation, and is the toxin, or liquid of the yeast germ.

According to a universal law of biology that the toxin of one form of life is a poison to all forms of life of a higher order, alcohol, the toxin of the low yeast germ is a protoplasmic poison to all life, whether plant, animal or man, and to all living tissues and organs of a man.

In the sumer of 1909 an international conference on alcoholism was held in London, to which most of the great nations sent scientific men as delegates to compare the results of investigation made in all parts of the world. Finding that these results agreed, representative medical leaders of the conference drew up a report in the form of a statement defining the nature of alcohol as follows:

"Exact laboratory, clinical, and pathological research has demonstrated that alcohol is a dehydrating, protoplasmic poison, and its use as a beverage is destructive and degenerating to the human organism, its efforts upon the cells and tissues of the body are depressive, narcotic, and anesthetic. Therefore, therapeutically, its use should be limited and restricted in the same way as the use of other poisonous drugs."

During the Boer War it was found that the Englishman did not measure up to the average soldier in the field, and that he manifested a low plane of vitality and endurance.

Parliament, alarmed by the disastrous consequence, instituted an investigation. The commission appointed brought in a finding that alcohol poisoning was the great cause of the national degeneracy. The investigation of the commission has been supplanted by investigation of scientific bodies and individual scientists, all arriving at the same conclusion.

As a consequence, the British government has placarded the streets of a hundred cities with billboards setting forth the destructive and degenerating nature of alcohol and appealing to the people in the name of the nation to desist from the drinking of alcoholic beverages. Under efforts directed by the government the British army is fast becoming an army of total abstainers.

The governments of continental Europe followed the lead of the British government. The French government has placarded France with appeals to the people, attributing the decline of the birth rate and increase in the death rate to the widespread use of alcoholic beverages. The experience of the German Emperor has clearly stated that leadership in war and in peace will be held by the nation that roots out alcohol. He has undertaken to eliminate even the drinking of beer, so far as possible, from the German army and navy. Think of it, the German Emperor turning reformer and condemning the drinking of beer!

The British government in conjunction with English life insurance companies, from the records of millions of cases, has been able to determine the death rate of total abstainers and of those who drink.

These statistics show that the death rate for the population at large is 1,000 deaths per year out of every 61,215 of the population, and that the death rate of total abstainers is 560 per year out of the same number, and for liquor dealers 1,642 deaths per year out of the same number. These figures, resulting from many milions of cases, can be taken as accurate. They show that of 440 deaths out of every 1,000 deaths, nearly one-half are due to alcohol.

The same ratio of deaths applied to our ninety millions of people would mean six hundred and eighty thousand per year; almost one-half being from alcoholism.

Gentlemen and ladies, this is not the vaporing of a fanatic, but are the words of truth and soberness, from the highest scientific authority and from officials of this country as well as Europe.

Many scientific men are trying to reform the practice of medicine, and to eliminate blood-letting and the indiscriminate use of mercury, and many other evils, but the writer thinks alcohol the greatest evil of any with which we have to deal.

The only thing that will continue our existence is to make ourselves *necessary*, to plant ourselves squarely in opposition to such a destroyer of human life, as I have just called your attention to, and fighting it out on that line to complete extermination, except strictly for the preservation of medicines.

Bureau of Homœopathy.

TOPICAL APPLICATION IN DERMATOLOGY:

Does Local Treatment Interfere With the Action of Potentized Remedies?

RALPH BERNSTEIN, M. D., PHILADELPHIA.

In presenting this subject my statements are based purely upon scientific deductions. I shall not deal with hypothesis, or conjectures, or presumptions of the past, but will try merely to picture and demonstrate those essentials which this modern age of ours has made possible.

Naturally the question as to whether the topical application of drugs interferes with the action of potentized remedies divides itself into two propositions, the first one of which refers to the possibility of absorption by the skin; the second as to the possibility of driving an eruption in by the application of drugs upon the skin.

Does this second proposition actually enter into the discussion? Yes, it does; because if the topical application of drugs in diseased skin conditions really does drive in the eruption, then surely it must interfere with the action of the selected remedy because it must certainly change or alter the entire systemic conditions for which the indicated potentized remedy was administered.

Let us proceed then to a discussion of this all important question, and let us decide as to whether the topical application of drugs really does or does not interfere with the action of the potentized remedies; and having thus decided let us hold our peace forever.

Does the application of local drugs drive the eruption in, and thus interfere with the action of the potentized remedy? No less authority than the great savant of one hundred years ago, our own Samuel Hahnemann, speaks time and time again, when referring to topical applications, of "driving the eruption away," never "in." Unna agrees with him, so does Duhring, and so does Hebra and Crocker, and a host of others. Surely they ought to know.

Nor is it possible to drive an eruption in by too quickly healing it by the topical application of drugs. Yet there are

authorities who contend that such is a possibility; for instance, Feer, (Correspondzblatt fur Schweitzer Artze,) reports eight cases in which children died after the apparent cure of eczema. Butte, (Ann. de Ther. Der. et Syph.,) reports two cases of death following eczema. D. Amato, (Mon. f. prakt. Derm.,) agrees with the two foregoing authorities, contending that there is a reciprocal relationship between the toxic elimination through the skin and the internal organs.

This, however, has nothing whatsoever to do with the fact of the eruption being driven in, because nature itself has seen fit to absorb its own toxic products which it has tried in vain to get rid of through the skin. It is worthy of note that among the cases reported, the causes of death were pleurisy, bronchial pneumonia, asthma, gout, rheumatism, etc., and, in several cases reported, no demonstrable cause of death could be given.

Now, again, these opinions are not based on scientific data. They are merely presumptions. Feer, in the cases which he reports of death following eczema, presumes that these children died after the cure of eczema. It is perfectly plausible for them to die after the cure of eczema. That does not say they would not have died while they had their eczema or previous to their having it. No deduction as to the exact cause of death is given.

There is no doubt but that it is perfectly safe to presume that these authorities may possibly have been mistaken in the conclusions which they have drawn. Is it not possible that eczema may have been co-incident in these cases? And because they were cured with topical applications, should said applications be blamed for driving the eruption in and thereby causing death when other causal evidence of death were present? And then again, are not people dying every day in whom frequently no demonstrable cause of death can be found?

Now how can the diseased condition be driven in because of the statement which I have previously made, that the diseased condition itself, being an abnormal state, does not reverse itself, disappearing in an apparent cure, and then attacking some internal organ, except, of course, in cases of malignant disease? These are facts, not fancies; these are certainties, not presumptions.

There are all sorts of cases reported attempting to show a relationship between suppressed skin diseases and internal disorders. For instance, Burnett presumes that a patient supposed

to have had angina pectoris following the cure of eczema appearing in the flexure of one elbow, had never been really cured; that the eruption was driven in by the famous Erasmus Wilson, and that her angina was in reality the expression of her external condition. Burnett further states that he began to treat the angina, which he contends she never had, when the old cracks appeared in the bends of the elbow, and from that time on she had no further attacks of angina.

Case 2. Eczema capitis suppressed. Fatal issue. "About nine years ago the wife of a staff officer brought her bonnie little boy to me," Dr. Burnett said. "He had the milk crust scalp, crusta lactea, the scalp appearing to be one solid crust of scabs; but the child seemed perfectly well and joyful. I prescribed for the child constitutionally and forbade all local treatment. The lady's father, however, a retired physician of repute, seeing the child's eczema, told the mother to use an ointment for the scalp. She told her father my warning not to put anything on the bad head. The old gentleman overruled and prescribed ungt. zinci, which soon healed the eczema. A fortnight later I was suddenly called by telegram to come at once, for the child had been seized with convulsions. The local doctors were nonplussed. I did my best to get the eczema back on the surface of the scalp, but totally failed. The child died, and the grandfather, sobbingly said "Oh! you zinc ointment!"

If the frenzied grandfather were still alive in this scientific age of ours, we could quickly calm and sooth his sobbing breast, and say to him: "Have no fear, because it was not the cause of your grandchild's death."

The zinc ointment is an inert substance, incapable of driving the eczema in or of causing the child's death. The baby's death from convulsions was doubtless due to some other condition.

I cannot possibly see how an eruption could be driven in by a topical application or in any other way. I shall later on demonstrate conclusively that a mild and soothing topical application time and again assists the action of the indicated remedy and acts as an admirable adjuvant.

We occasionally hear a frantic mother appealing to the nurse or physician to bring out the eruption because it has disappeared, and the mother frantically cries: "The eruption has

been driven in," and is looking for a terrible end for the patient.

If we stop to think but a moment that perhaps the room had been suddenly cooled, or the patient had carelessly thrown off the covers in delirium or restlessness, one can readily realize that the cutaneous circulation had been impeded by the sudden cooling of the patient, and this had caused the disappearance of the rash. Just as quickly as the room is again warm, and the patient is brought back to normal condition, just so quickly then does the rash re-appear; showing it to be an absolute fallacy that the rash could possibly be driven inward. Scientific facts and observations have demonstrated that the vasomotor system controls dilation and contraction. Circulating toxins or other irritants are responsible for the manifestations of cutaneous disease.

Does, then, topical application of drugs interfere with the action of potentized remedies? Let us not stop to consider the answer now; but let us go on to a consideration of the question of absorption by the skin. A consideration of this part of our proposition bears a more important relationship to the answer of the question propounded by our worthy chairman.

"The epidermis forms practically an impermeable barrier to the absorption of liquids and solid substances." (Stelwagon) "Its absorptive qualities are negative." (Pusey) "The absorptive power is generally slight, more so than is even supposed." (Kaposi) "The corneus layers of the epidermis are almost impervious to liquids and finely divided solid substances." (Fleescher) "The naturally lubricated, firm, horny layers of the epidermis offer the chief obstruction to absorption by the skin" (Dearborn.)

Therefore, we can reasonably and safely say that the skin is practically nonabsorptive, except to certain substances and under certain conditions. Mercury, arsenic, iodin, tar and sulphur are, however, more or less absorbable by the skin, especially under certain conditions, mercury perhaps being the most absorbable of all. One claim is made that mercurials undergo vaporization, and it is a well known fact that gases are more readily absorbed than other substances.

Now when we use mercury in the treatment of syphilitic affections, surely we direct the patient to rub it in good and hard until it entirely disappears. With the infant with the sen-

sitive and tender skin we apply it upon a binder, and thus by friction the substance is more readily absorbed.

Would the application of mercury locally in the treatment of syphilis interfere with this action of the potentized mercury internally administered? Hahnemann, in the Organon, states: "The remedy used externally must also be the only one that is useful when administered internally." Therefore, does the local application of mercury in this condition interfere with the action of potentized mercury internally? The answer is obvious.

Now then, with reference to arsenic, sulphur, iodin, and tar: surely if these remedies should happen to be indicated in their potentized form, why then should they not be used locally for the same reason that mercury can as well be used locally and internally, according to the doctrines of Hahnemann?

So far, I have referred entirely to the nonabsorbing power of the unbroken skin. When, however, there is a solution of continuity, when there is a small or large area of intensely inflammed exuding epidermis, who should think for a moment of rubbing in unguentous substances upon such a diseased surface? In the first place the patient should not permit it because of the intolerable pain it would produce. Surely able physicians never advise their patients to rub in any ointment or lotion upon such an inflammed surface, nor do they advise any such procedure upon any acutely inflammed area, such as erythema, even though the skin be unbroken.

Again, in a diseased condition of the skin, the normal functions are at a stand still; instead of a tendency to absorb, the glands are excreting, pouring out volumes of serum from their diseased orifices. Therefore, there is no absorption because, as has been previously stated, absorption only takes place with certain substances under thorough friction, as mercury and the substances already enumerated are never used in acutely inflammed areas with either broken or unbroken skin.

But such substances as boric acid, calamin, zinc oxid, glycerin, lime water, petroleum, lanolin, olive oil, goose grease, are applied. Mark you, they are not absorbable without friction. They merely act as a protecting covering to the skin. In other words, they protect it from the atmosphere; they soothe and calm the exposed sensitive nerve fibres, and in that way subdue the irritated, highly inflammed epidermis, causing the in-

ternal potentized remedies to have all the more opportunity to assist in their errands of amelioration and mercy. Now then, so far, does the topical application of drugs interfere with the action of potentized remedies?

It has been demonstrated scientifically and beyond the shadow of a doubt by the clinicians of Vienna, and verified by my own experiments as well, that pigments incorporated in certain oils and ointment bases, and thoroughly rubbed into the skins of cats, rabbits and dogs for a certain definite period of time, sections of skin then made and studied beneath the microscope, it was found that lanolin, always having enjoyed the reputation of being the most absorbable of all ointment bases, together with petroleum, penetrates hardly deeper than the narrow constricted neck of the skin follicles, while goose grease, olive oil and almond oil in their order were found to have penetrated beneath the neck of the follicles, the goose grease being the most penetrating of all, going far down into the very bulbs of the follicles, and, mark you, all of these under persistent rubbing.

But, these same substances incorporated with pigments and applied to the skin without friction for definite periods of time were found to have been absolutely nonabsorbable. These are scientific facts, not hypotheses, not based on deductions, not based on presumptions; but clean, clearcut facts against which there is no argument.

Again, it is presumed that if substances are to be absorbed by the skin they must be finely divided. But surely the way the majority of ointments are prepared and put upon the market leaves much to be desired in the matter of division.

With reference to the more chronic dermatoses such as endurated types of eczema, as lichen or psoriasis the physician is wont to direct his patient to rub the ointment in long and well because he wants its stimulating effect upon the skin. He usually uses lanolin or petroleum as the ointment base. As aforesaid, I have demonstrated that these two ointment bases are not absorbable. Does then, the topical application of drugs in these or any other type of dermatoses, interfere with the action of potentized remedies?

Finally, we have made the clinical observation in several series of cases, treated in the various dispensaries and hospitals with which I am connected, that side by side those dermatoses

which were assisted by the topical application of mild, unirritating substances, co-associated with the administration of the indicated remedy, made much more rapid progress, gave quicker amelioration, exerted a much more rapid, soothing and calming effect than those series of cases treated on the indicated remedy alone.

Physical Therapeutics Society.

INSTINCT, INTELLECT AND THE GAME.

HENRY S. MUNRO, M. D., OMAHA, NEB.

The two fundamental instincts which determine the development of the species are developed side by side—reproduction and nutrition. Since reproduction and nutrition are so intimately conected, it is not surprising to find that at a very early age the rapidly developing reproductive system, biologically and physiologically considered, so largely determines the conduct, habits, and mental attributes of the organism in adult life.

Nor is it surprising to find out how those factors which hinder the nutrition of the organism at a very early age so markedly influence the mode of the reaction of the individual to the psychic and physical factors of environment at a later period in life. In all departments of life, physical and psychic development goes hand in hand, each mutually dependent upon the other—one and inseparable.

The psychic life of the human infant is very nearly the same as that of the lower animals, and abundant nutrition, warmth, comfort and all other requisites for sustenance and development of the lower forms of life contribute to the gratification of both the instincts of reproduction and nutrition, and influences their modes of expression in the psychic and physical life of the individual at a later period of life. There are therefore no grounds for conflict between the biological, the physiological, and the psychological methods of approaching the factors that make us what we are in adult life. They deal with one and the same thing, whether expressed in psychological or biological terms. They refer to different phases of experience in the development of the individual.

The apparent conflict now going on between psychologists, physiologists, psychiatrists and psychopathologists, in the exploitation of their numerous theories of the factors contributing to the etiology and mode of expression of the psychoneuroses, be they designated as neurasthenia, psychasthenia, hysteria and other physical or psychical manifestation of disease resulting from a misadaptation to environment, is clearly comprehended, only when we do away with the popular conception of an existing difference between the somatic and the psychic.

Modern science is monistic and unifies the two supposed entities called mental and physical. In all departments of animal life the psychic and physical are intimately and inseparably correlated; they are expressions of one and the same thing—an organism in function.

Mind exists wherever we find a sufficiently organized being in action; the self in action, the personality, or "ego," is the sum total of the combined functions and faculties of the millions of cells comprising the organism in action.

"Good health" is the harmonious interaction of all the powers, faculties and functions of the entire organism. Wherever cells are not functionating, physically, physiologically or psychically, so as to conduce to the maintenance, satisfaction and general well being of the entire organism, there we find a misadaptation to environment, *consequently a disease*.

The logical corollary to the foregoing premises is that every measure, be it construed a psychic or physical agency, that promotes the harmonious interaction of the various faculties and functions of the entire organization, that promotes the development and well being of the complete individual, or professional, or social body, is within the domain of rational therapeutics and contributes to the upbuilding and sustenance of the entire organization, because every single remedial measure is directed toward a vital phenomena, intended for the prolongation of life.

We must ever keep in mind that the individual is the biological unit, so far as he is related to society, just as is the single cell the unit so far as he is related to the human organism—something wholly apart from that of the body of which it forms but one unit among inconceivable millions. Just as the individual has a life different from that of the entire organ-

ization of society, so has each cell—and each group of cells—a life different from that of the organism of which they form the units.

The greater the specialization, the more a cell is dependent upon the group for its existence. Each cell is then maintained and contributes something to the maintenance of the entire organism. Such groups existing in harmonious co-operation are thereby better fitted for survival than groups of the undifferentiated protoplasmic cells, and thus in the evolutionary process the cells comprising the life of the mammal are so far different that we have a common ancestry in the germ cell. The life of the highly developed mammal is one in which dependence results from specialization, and therefore we may say that as there are various degrees of dependence, there are various forms of multicellular life.

The greatest factor in organic evolution is the special function of the different varieties of units to contribute to the organization as a whole, and this implies co-operation and adaptation to environment, the mental function.

The power to vary, which in the higher life seems to be intimately connected with the power to live, gets its greatest stimulus from the instinct of reproduction. This applies to the individual type of medical school, as well as to the individual cells, or to the individual type of animal in the higher life.

It is this power of special function which has led to the power of variation, and raised the animal world from the condition of simple protoplasm to one wherein is found the complex intelligent being. Without the power to vary, all life would have lain prostrate in the form of undifferentiated protoplasm. Thus protoplasm itself is possessed of an inherent force working toward a definite end.

Lamarck well said, "Animals vary from low and primitive types chiefly by dint of wishing." So, if Lamarck's divination is true, there must have been impressed upon the primitive protoplasm a clear, far-reaching aspiration, which, all unconscious in the lower life, raised it through form after form, until the conscious life of man was reached. Man, as we know, does vary upward by dint of wishing, or as Emerson has expressed it, "We do not what we will, but what we wish."

In the light of present day psychology, we find that what was true in the biological realm is no less true in the psychological. It is a stimulating thought to find that this unity of design has run through the whole plan of life development. So we see mind and body, psychic and physical if you please, developing side by side.

This viewpoint gives us a somewhat broader and more comprehensive understanding of the phenomena of mind in action. The field of psychopathology has too long been dominated by that useless bugaboo, the relation of the mental and the physical and the implied necessity of each being essentially different from the other, when they are one and the same reality.

With this viewpoint, it must be evident to the most casual observer that there are no specialties in medicine; that each department of pretended specialists are, relatively speaking, isolated grand-stand players; for it must be evident that no organ or separated group of cells can become impaired without systemic results, and he who is ignorant of all except his limited specialty fails to understand or cure his patients. In every disease there is a complex of symptoms, either in syndrome or sequence, extending to the most remote parts. The entire organism suffers as a consequence.

But, be it understood, every specialty in medicine serves the purpose of medicine as a whole just as specialized cells promote the common welfare, life and satisfaction of the human organism. Just as the various types of medical schools serve to fulfil the needs of different types of physicians, adapted to meet the needs of the various classes of people, and to serve the common welfare of humanity as a whole.

There is a different set of biological laws for every grade of co-operation from the ameba to the physician—from the profession of medicine to the common welfare of humanity. As the cell unit occupies its place in the organism in conformity to the law of the survival of the fittest, so does each man fill his place wherever found in the world because he is incapable of filling any other.

As Woodruff has expressed it: "The theories of heredity all tend in this direction of assuming that the developing organism takes the special course it does because it can react to the environment in that way and no other. Each cell is as

different from its neighbor as a man is from his, no two being alike. That is, heredity is the mere reaction to the environment on the part of special kinds of groupings of cells and substances."

In all departments of life as we find the individual cell or person in action adapting itself or himself to the environment according to the inherent potentialities as an adaptive mechanism, so do we find the physician of today exercising his function as a unit according to his development through knowledge and experience—his peculiar mode of reacting to environment.

But the egotism of the evolutionist of today is assuming that we have reached the point where conscious selection is replacing natural selection, in perfect accordance with the law of the survival of the fittest. Conscious selection is exercising its influence in every department of life, as well as in every phase of the practice of medicine. As a profession, we are now appropriating every measure that will promote the well being of the entire organism, and according to the psychic development of the physician is he capacitated to exercise his choice of such measures as will inhibit the development of abnormal units of one kind of cell protoplasm and by so doing promote the well-being of the pateint, as well as of the common welfare of the profession of medicine, and of the larger social organization. Hence the present eugenic movement which is destined to awaken mankind to the exercise of the same caution in breeding its offspring as is today exercised by intelligent stock breeders in the rearing of pigs.

The science of eugenics—the study of what improves or impairs racial efficiency—must go hand in hand with the development of medical science and medical art, which is becoming more and more to mean the science of public health, and it is here to stay; hence the public health movements, hygiene, quarantine, the inspection and treatment of school children, vital statistics, vaccine immunization for typhoid fever, the isolation of infectious diseases, individual drinking cups, the investigation of cost of living, wage earnings, etc. In every department of life instinct, in proportion to our individual evolution, is being guided by intellect; intelligence is superseding ignorance, and the fight of man for mankind is becoming more in evidence. In finding a substance which will disrupt the co-

ordinations of the units of one kind of cell protoplasm and not do harm to the human organization, as quinin in malaria, antitoxin in diptheria, or mercury and salvarsan in syphilis, as well as various other sero-diagnostic and therapeutic measures, we are contributing to the maintenance of the life of the organism as a whole.

In appropriating every measure that conduces to the development, life and happiness of the entire human organization we are exercising the highest psychic potentialities of that peculiar type of organism called the physician. Thus the human mind, as an adaptive mechanism, is giving mankind the greatest service, and such service is rendered in accordance with the requirements of the individual psychic and physical needs of each individual as well as that of the larger social organization.

Moreover, we are not losing sight of the fact that in work and exercise the individual is using his entire psycho-physical mechanism as a self-generating means of producing in his own organism those very enzymes, antitoxins and antigens which are so essential to normal functional activity. The war against the microbe we shall wage forever. Sanitation, hygiene, asepsis and pure food, as well as clean milk and drinking water, we are bound to have in the interest of human life.

But let us grant that the last disease due to the most poisonous microbes, as recognized today, be exterminated forever; that food clean and wholesome could be obtained in abundance for all people alike; that houses and clothing and fuel were as plentiful as the air that we breathe, the real work for the coming physician would have hardly begun. A greater task would still be before us. Double the physicians now engaged in the present day practice of medicine would not be able to do the work required, and the physicians who are qualified to give the assistance needed have scarcely begun to appear upon the scene of action.

Chronic disease today kills half of the people who die in the United States, or about 750,000 annually. Half of these, that is 375,000 would not die if the average health were as good as thirty years ago. Christian science, so-called, and osteopathy and the chiropractics are here, and we believe that they have demonstrated their usefulness. But this rapidly increasing mortality rate from chronic disease continues to climb

upward. The death rate from acute diseases is declining, but the problem of treating the degenerative diseases, including arteriosclerosis, Bright's disease, cancer, and other forms of mental and physical degeneracy is but faintly beginning to dawn upon the medical profession, while the cause is left in operation to produce gross pathology for the surgeons at an ever increasing rate.

The surgeons are clever, intelligent, skilful fellows. But if the scientific knowledge of today were applied clinically as a means of correcting the abnormal psychology, and re-establishing the perverted physiology, together with the adoption of such measures as will cure the disorders of metabolism in the incipiency of these functional derangements, nine-tenths of the surgery done today would be unnecessary, because the biochemical abnormalities that produce a suitable soil for the development of gross pathology would be corrected ten years before there was need for a surgeon's knife.

We can't dodge our responsibility by taking refuge behind "heredity" and "environment," and deserve the semblance of being engaged in the life saving business. We've hardly started to fight; we've barely begun to do. If you are living fifty years from now, you will find that what I am saying is true. A greater work is still before us.

Friendly microbes have been helping to eliminate the world's unfit, though they have robbed it of millions of the flower of the human race. We will fight these enemies of mankind until the end of time, but a greater field of usefulness is now spread before us. The greatest need of the world today is physicians who are qualified to employ methods that will heighten the resistance of the normal cellular elements of the millions living on a low plain of vital resistance, so that microbes will not count so far as they are concerned. Indeed, the greatest need for each individual is efficiency—life. The bank of nature upon which we have to draw is inexhaustible, but there are millions of human beings who need to be taught how to achieve. Health is an achievement. We are doing everything in the capacity of physicians except to help liberate the individual from the fetters that hinder his development and stimulate him in the exercise of his own initiative, so that he can achieve a higher degree of energy in each individual cell of his body, and in this way learn to rely on himself.

When the bacteriological cause of a disease is discovered and the appropriate remedy is devised for so heightening the immunity of the composite individual, as to make the cells of his organism invulnerable to the invaders, that part of the work is settled, so far as science is concerned. It is the duty of the state to look after the environment and see that it is what it should be for the best interest of the individual, as well as for the community. If we are content to apply only hand-me-down remedies for the purpose of treating bacteriological disease, we shall not last long. The people are growing too intelligent to need a physician for such purposes much longer. And if we are content to treat only the gross local physical manifestations of the diseased personality, while allowing our patient to continue living at such a low state of vital resistance as to furnish a favorable soil for a new crop of "pathology," I would ask if we deserve to feel happy while doing such work? Can we not aspire to render humanity a greater service, or must we still go on allowing the individual patient to live, or pretend to be alive, while making him conscious of his local pathology, and giving us a chance with drug and knife to dose and cut him as long as his pocketbook will stand it? Perish the thought forever!

Accidents to the physical machinery, such as infections, abscesses and wounds, are conditions needing repair, and such work is as essential in the life saving business as any other class of professional endeavor. Crippled eyes and legs and backs will need glasses and splints and braces as long as human weakness is in existence. The needful is not menial in any department of life. We need all of the workers in every field of endeavor. If they are doing something that serves the needs of humanity—doing it gladly, cheerfully and with the purpose of doing it better than any one else can do—they are serving the needs of the larger organization and their labors deserve protection under a democratic government. Such an individual is not only contributing to the life sustenance of others, but is living up to the privileges of a normal human being, and promoting his own interests as well. However humble his work, he is filling the place best suited to his own individual evolution.

All of the characteristics that are found in the life of the ameba are exemplified in the evolution of the human animal

from the time of conception to adult and mature life. When taking in nourishment, the ameba is all digestive apparatus. When it reaches out its delicate pseudopodia and allows its body to flow into the point projected, it is all organs of locomotion. When it divides and produces two cells in the place of one, it is all reproductive apparatus. When it is attracted or repelled by the conditions of environment, we see typified all of the adaptive mechanism which in later periods of development is found in the fully developed nervous system of the most highly developed mammal.

Away down in this lowest point in the development of the species do we find an instinctive primordial urge, signifying a desire, a wish. And thus begins the step toward the development of what this primal cell has aspired to become, which has been gratified in the production of the highest type of the human species.

According to the nutrition of the primitive cell has it been able to gratify its desire to reproduce its kind; and according to its ability to reproduce its kind has it required or wished to gratify its appetite for food. The hunger for food signified the desire for power, for vitality, for efficiency, for life; and according to the nutrition, power and life-efficiency of the cell, there is created the desire to reproduce its kind and there is developed the ability to fight for the preservation of its progeny. What is true of the ameba in this respect is also true of the human being, individual or institutional; nutrition and reproduction have developed side by side, practically as one and the same power in action.

These fundamental instincts, nutrition and reproduction—the generation of force in the cell and the reproduction and multiplication of its kind—have furnished the dominant motives in organic evolution. According to these fundamental instincts is the peculiar expression of the individual manifested in all departments of life.

They are the hidden springs of character, mental and physical, which are beyond control, and from which no life can escape, save through an understanding of the fundamental laws contributing to the development of mind and body, and by the intelligent conformity and adaptation of ourselves to the conditions whereby the highest potentialities of mind and

body may be developed, thus replacing natural selection by conscious selection, the mental function.

The human mind brings about not only adjustments to external conditions, but it also exerts a marked influence over our internal bodily adjustments as well. While the higher nerve centers constitute the physical basis of the mind in the adjustment of the individual as a biological unit to his environment, these also influence and regulate the inter-relations of the various bodily functions in a far greater degree than is generally supposed at the present time. So true is this statement, that we do not in the least exaggerate when we speak of intelligent physiological designing.

It is by education that we are enabled to a considerable extent to free the individual from the fetters cast upon him by the limitations of the body as the result of inheritance, or to liberate him from the dominance of the primitive instincts. Through the development of the intellect, the purely physical desires cease to be all powerful, and the body comes under the control of the mind. Instead of being governed by external accident or haphazard circumstance, we can, by education, make the body to a new and marvelous extent subject to the intellect. By this means the power to vary, to exercise choice, to be one's self is developed.

Natural selection being now replaced by conscious selection, is but a way of expressing the result of harmonious relations. A certain harmony between the organism and its surroundings is absolutely essential to its existence if health and happiness be maintained. But within these physical limits there is opportunity for great variation and great aspiration and conscious choice—these often times form one of the factors of natural selection—the fittest frequently being the most intelligent, the bravest, or the most worthy.

The individual in the process of evolution, however, is always sacrificed to the race, which for the time is nature's unit. The man of genius, the most highly individualized of created beings, has the power of making men and women of ordinary human animals, if he only dare to exercise his privilege. His influence outweighs that of miltitudes of other men, and may ultimately affect the thought and consequently the life of his whole race.

But he who dares get out of the beaten path in medicine must remember that nature is inexorable. As ruthlessly as she has sacrificed individuals to the good of the race in the past, she will continue to sacrifice them to the good of the race in the future. Individuality, however, is the crowning attainment of the human mind and whoever has the power has the right. The opinion of one creature concerning the duty of another does not retard the primal forces of man.

Karl Pearson, F. R. S., Galton Professor of Eugenics, is one of the world's greatest living authorities upon public health questions. In an address to the Social and Political Education League of England, he said:

> "The association of environment and character is extremely small, and it is often impossible to say which way the environment really tends. * * * Now I will not dogmatically assert that environment matters not at all; phases of it may be discovered which produce more effect than any we have yet been able to deal with. But I think it quite safe to say that the influence of environment is not one-fifth that of heredity, and quite possibly not one-tenth of it. There is no real comparison between nature and nurture; *it is essentially the man who makes his environment, and not the environment which makes the man.* That race will progress fastest where consciously or unconsciously success in life, power to reproduce its kind, lies with native worth. Hard environment may be the salvation of a race, easy environment its destruction. If you think this point out in detail, I believe you will see the explanation of many great historical movements. Barbarism has too often triumphed over civilization, because a hard environment has maintained, an easy environment suspended the force of natural selection—the power of the nature factor."

Dr. Berry Hart, of the School of Royal Colleges, Edinburgh, remarks:

> "It is often debated by the anxious mind of man, how sin came into the world? Evolution gives the best answer. Sin is the action of the undesirable qualities existing in man, as the result of his development. In sin, we see the heritage of the man of the Stone Age, in whom lust and greed and selfishness reigned supreme, almost as a necessity of his existence; while charity and generosity and altruism were rudimentary. Yet in him there was implanted a rudimentary divinity, and gradually, as ages went on, it began to tell; and now it is in man, side by side with his baser self."

With the masterly plan of research laid down by Mendel, in addition to the investigations of Darwin and Weismann, for

the many workers following in his lines at the present time, we have herein the hope that the example of some of our professional leaders will be markedly improved during the years to come. With the application of scientific methods for the limitation of the propagation of the unfit, much can be accomplished for the welfare of the human race, but no science can be built up by popular discussions before fundamental principles are firmly based. As Karl Pearson remarks:

> "To be a true science it must have developed appropriate methods, have found its raw material and established a school of trained workers, who are devoting their lives to its pursuit."

The investigations of Davenport and others of Cold Spring Harbor is a step in the right direction.

Undoubtedly the theories of eugenics are attractive and promising in the extreme, but so far as securing the co-operation of individuals who will be willing to conform their lives by its teachings, and for the practical demonstration of its working, we have only theory. The future alone can decide, but it is full of promise.

Allow me to say that I am not a believer in any set theory of human knowledge. Evolution means change. A set theory is in opposition to all history of scientific progress. No branch of science has made progress save as new methods and new ideas came into it, and how frequently in the history of mankind have these methods and ideas come from the outside!

Whatever may be our favorite department of work in life, let us ever be generous enough to hail with delight the achievements in other departments. Let us hold to a keen enough appreciation of the unity of life to understand that we need the efforts of all classes, in all departments of endeavor, in all fields of research.

Who can deny today that the laboratory work of the physiologists, the bacteriologists, the parasitologists and the physicists, within the past half century, have revolutionized the practice of medicine? Or who can deny that the light breaking in upon our senses from the investigators of biology, chemistry and physics are destined to yet broaden our senses? Life means change; change means growth; growth means action; and action means life. And so, in this ever repeating cycle we find that strife and turmoil, death and decay, misad-

justment and re-adjustment, are but varying modes for the transformation of matter and energy, and that this continuous change is what has and ever will be the chief characteristic of life.

Over a century ago Lamarck formulated a law which we are just beginning to appreciate:

> "In every animal which is still undergoing development, frequent and sustained use of any one organ increases its size and power, whereas the constant neglect of the use of such organ weakens and deteriorates it, so that it finally disappears."

He insists on the fact that organization precedes function. He affirms only that function, i. e., action and reaction, modifies the organ; or, in other words, that organisms are modelled by the action of exterior forces acting upon them. It is in this sense only that function may be said to make an organ, but this mode of expression is easily misconstrued.

Laduc in Mechanism of Life, says:

> "Life is a correlation of functions and of energy-transformations, correlation which is conditioned by the form, the structure, and the composition of the living being. Life may therefore be said to be conditioned by form, i. e., the external, internal, and molecular froms of organisms."

As the offspring of its parents, we find that the form of life which we recognize as the human infant, came into the range of our vision with no consciousness, but with a central nervous system and special sense organs. From the moment of his debut, he began to receive sensations from the outer world and to react to them. The faculty of growth is inherent in every part of his body, transmitted from parent to offspring, and with this transmission the infant receives the means by which any progress that the parent may have acquired in the composition and form of bodily structure, as its only asset in life. Whatever variation in offspring from parents must reside in the power which new situations and new habits acquired have of modifying the bodily organs. Thus Lamarck remarks: "Since all living things have undergone more or less change in their organization, the species which have been thus insensibly and sucessively produced can have but a relative constancy, and can be of no very great antiquity."

Leduc tells us that: Life is not a substance, but a mechanical phenomenon; it is a dynamic and kinetic transference of energy determined by physico-chemical reactions; and that the whole trend of modern research leads to the belief that these reactions are of the same nature as those met with in the inorganic world. It is the grouping of physical reactions and their mode of association and succession; it is their harmony which constitutes life.

Not only in physical phenomena, however, do we find man united to other life. As his body is an unfolding of the possibilities of protoplasm, that common basis of all living forms, so are his intellectual and moral faculties an unfolding of certain possibilities discernible in the lower life. Not a single power resides in man whose roots cannot be traced down into that great world of animal and mineral life, of which he is the natural product. The chain of life is a continuous one, from the mineral at one end to the most complicated organism at the other.

In one particular alone does man differ essentially from the lower life. To him has come a transcendent development of those nerve and brain centers by which he is better enabled to comprehend the world about him, and by means of which he has become master of all other animals beneath him. The constitution of consciousness, its functions, and the laws governing its activities in the relation and adjustment between the organism and its environment is what primarily interests us in the study of the human species.

The fact that consciousness comes into existence only at a relatively late stage in evolution and in association only with relatively complex organism would seem to indicate that it had some function in connection with the adjustment of the organism to its environment, and it is from this viewpoint that we can best consider its activities.

Physicians have studied the various parts of the human body, and they have obtained a knowledge of the structure and function of its separate cells and organs. Heretofore, they have treated this organ or that, such as heart, kidneys, liver, or glands, directing their therapeutics, whether medicinal or surgical, to reach parts only.

Today we recognize that no organ, or structure, exists for itself alone, but that every structure, organ and part func-

tions in perfect correlation with the brain cell elements, and that these collectively are designated as the personality. In other words, we are more and more coming to the viewpoint of seeing the individual whole, and seeing him continuous, recognizing that what he is at any given moment, whether in health or disease, is the end product of all that has gone before him. He is regarded as a mode or manifestation of life, intimately dependent upon his environment, his conduct, his thoughts and his habits. Lamarck expresses it: "Species have only a relative constancy, depending on the circumstances of the individuals. The individuals of a given species perpetuate themselves without variation only so long as there is no variation in the circumstances which influence their existence. Numberless facts prove that when an individual of a given species changes its locality, it is subjected to a number of influences which little by little alter, not only the consistency and proportion of its parts, but also its form, its faculty, and even its organization; so that in time every part will participate in the mutations which it has undergone."

Gentlemen: It is my opinion that we have reached the most critical period in the history of the medical profession, as well as in that of our commonwealth. We are upon the hour, as it were, before a great revolution. In fact, the revolution is on and individuals, according to their intelligence and bravery, are taking sides in the conflict.

Disease is a misadaptation to environment, and it matters not what be the terminological designation. Diagnosticating pathological lesions, herding individuals in hospitals, cutting out gross diseased manifestations, and placing the individual under conditions where all of the bodily resistance is being trained out of him, is an outrage upon human life. No living organism can exist apart from, separate, and distinct from its habits. It is the habits of the organism that determines its character, physical or mental, whether sick or well.

Living beings are made up of the same chemical elements as are the minerals; and the human being is the arena of the same physical forces as those which affect the inorganic world. The human being is only a transformer of matter and energy. He is a current of matter and energy, both of which change from moment to moment while passing through the organism.

And as is the human being, so is every cell in his body. It is only a transformer of matter or of energy, be it a brain cell, a gland, muscle or skin cell. Man is a cosmos, made up of millions of individual cells, each with a life of its own, though the life of each is mutually dependent upon every other cell in his body for its existence.

And as is man, so is the medical profession. Each is a unit with a life differing from that of the entire professional body, though the unit is relatively dependent upon the whole collective group for its satisfaction, harmony, and life.

And so is the institutional unit, the medical school, in its relation to the entire professional body, and the larger social organization.

Be it ion, or electron, or cell, or organism, professional or social, or world, or the countless planetary systems comprising the entire cosmos—everything that is conceivable is but a transformer or matter and energy, infinite and limitless. Call this entity force, matter or energy, mind, spirit or God, the name matters not. It is life itself, used to perpetuate and transmit life, ever present, indestructible, constantly changing, never still, with illimitable modes of expression.

Thus the unity of mankind, of institutions, and of worlds, since all that is, is but a mode of energy, a form of matter, a manifestation of life. It is action that counts. We know a thing by what it does and by what it is capable of having done to it. The energy of a given body is the amount of transferable motion stored up in that body, and is measured by its capacity of producing mechanical work.

Leduc expresses it in the following formula: "Energy is eternal: none is ever created, and none is ever lost. The quantity of energy in the universe is invariable, and is conserved forever in its integrity."

Energy presents itself to us in two forms, potential and actual. Potential energy is slumbering energy, energy localized or locked up in the body. In order to transform potential energy into actual energy, there is required the intervention of additional awakening, stimulating, or exciting energy from without. This stimulating energy may be almost infinitesimal in amount and bears no quantitative relation to the amount of energy transformed. It is the small amount of work required

to turn the key which liberates an indeterminate quantity of potential energy.

Actual energy, on the other hand, is energy in movement, awake and alert, ready to be transformed into any other form of energy without the intervention of such external stimulating force.

It must, therefore, be evident that the various theories of medical science and of medical art are only methods devised for the transformation of matter and of energy, be our methods called physical, physiological or psychical.

In the foregoing pages, I have expressed my belief in everything devised by all schools of medicine and in every other department of human endeavor, as a means of saving life. That any medical school, or system of treatment, or institution, or cult or hierarchy has the monopoly on the methods of the transformation of matter and energy, or of teaching the individual how to get, how to gain, how to achieve, and how to express the highest psychic and physical potentialities in the cells of his body, as a means of making them immune to the destructive influence of pathogenic germs, or other morbid physical manifestations, *I most emphatically deny.*

We need every method of attacking, inhibiting, and limiting the destructive forces of nature, as a means of conserving human life, but we should not forget the most helpful measure of all, i. e., that of teaching the individual how to achieve the highest degree of potential energy in the cells of his body, and of dealing with our patients by such methods as will transform potential energy into kinetic or actual energy, and in this manner better qualify the organism as a transmitter and transformer of matter and energy.

It is this very thing that we are attempting to do in the employment of the catalytic influence of the various enzymes, antitoxins and antigens which have crowned the medical profession with honor in the treatment of smallpox, typhoid, diphtheria, meningitis and other infectious diseases.

Leduc, from whom I have quoted freely, because he has borne out the premises upon which my monograph on psychotherapy was written, in his chapter on Energetics, makes the following remarks: "A weight suspended by a chord does not fall merely because there is room for its descent. We need

the intervention of some outside force to cut the cord. In every transformation of energy this external force is required to cut the cord, or pull the trigger, some external force of excitation or liberation; an energy which may be infinitesimal in amount, and which bears no proportion to the quantity of potential energy it sets free. This intervention of an excitary, stimulating, or liberating energy is universal. Every phenomenon of nature is but a transformation or transference of energy, determined by the intervention of a minimal quantity of energy from without. This liberation of large quantities of potential energy by an exceedingly small stimulus has not hitherto received the consideration it demands. Certain phenomena, such as those of chemical catalysis or the action of soluble ferments, excite our astonishment because such extremely small quantities of certain substances will determine the chemical transformations of large quantities of matter, there being no proportion between the amount of the catalytic substance and the matter transformed. These phenomena are, however, only particular cases of the general law of energetics, that transformation requires a stimulus. The catalyzer, or ferment, does not contribute matter to the reaction, but only the minimal energy necessary to liberate the chemical potential stored in the fermenting substance."

In all diseases there is a fall of potential. The cells of the entire organism are in a state of lowered vitality. The ability of the cell to transform energy, i. e., to take in new matter, fix and change it, and throw it off again, is below par. Carnot's law of fall of potential, or the law of stimulus, implies the necessity of the intervention of an external excitatory force capable of setting in motion the current of energy required for transformation. This stimulus is the primary phenomenon, the determinant of such transformation.

In the infectious disease known as pneumonia, for illustration, we have found no antitoxin or other material agent, which will inhibit the action of the pneumococci, or that has successfully heightened the resistive power of the cullular elements of the entire organism. This disease is one of the most dreaded by the medical profession. It claims 135,000 human lives in the United States every year. Recognizing that I could so deal with the individual patient by psychological methods as to liberate and transform the potential energy of the normal cellular

elements of his organism, and by this means heighten their fighting capacity. I was in general practice for a period of over nine years without a single death from pneumonia in patients above two years of age, save one which developed just after having typhoid fever, and which was later complicated with pleuritic effusion, occurring in a man of seventy years of age. My success in the treatment of typhoid fever for the same period of time was equally as great.

During the past four years in Omaha, I have been successful in the treatment of every patient, not having had a death or a suicide during this entire time. On the 25th of June an elderly lady left for her home in another state, coming to me two months previous after having had $1450.00 worth of surgery, which had only aggravated her symptoms, and she went away entirely relieved of a most distressing painful condition. Other indications of her improvement are as foliows: Her blood pressure was reduced from 195 to 135; she could barely hold out to walk three blocks when she came and could easily walk 33 blocks when she left, having taken this walk as a part of her prescribed regime every day for a month before leaving my care.

The Binet-Simon mental scale test showed that this patient had only the mental development corresponding to that of the normal child of twelve years old. My best results, however, have been obtained with the better grades of intelligence, but this case will illustrate the use of surgery on the plan of "cut because you can and get the money regardless of the welfare of the patient." I am sorry to have to say it, but have had a number of victims of the abuse of surgery, where the psychic factor was entirely ignored, and in patients who were hindered rather than benefited by such procedures.

I again quote Leduc: "Every living being is a transformer of energy. The lower animals and man himself receive from food and air the potential energy which becomes actual under the process of oxidation. This chemical substance is the source of all vital energy; the ancients aptly compared life to a flame, and Lavoiser has shown that life, like the flame, is maintained by a process of oxidation. The energy derived from food and air is restored by the organism to the external world in the form of heat and mechanical motion. The celebrated experiments of Atwater show that there is an absolute equality

between the energy obtained from the oxidation of the various aliments and the sum of the caloric and mechanical energy liberated by a living being.

"Man obtains his supply of energy either directly from the vegetable world, or indirectly from vegetables which have passed through the flesh of animals. Vegetables in their turn obtain substance from the mineral world and their energy from the sun. The salts, the water, and the carbonic acid absorbed by plants possess no store of potential energy. Whence then can they obtain the potential energy which they transmit to animals and man, if not from the sun? The energy of the solar radiations is absorbed by the chlorophyll of the leaves, and stored up in the organic carbohydrates formed by the synthesis of water and carbon. Chlorophyll has the peculiar property of reducing carbonic acid, and uniting the carbon with water in different proportions to form sugar and starch, whilst fats and vegetable albumens are also formed by an analogous reaction. All these complex bodies are stores of energy; the vital processes of oxidation do but liberate in the human body the energy which the chlorophyll of plants has absorbed from the solar rays."

"We must look then to the sun as the direct source of all the energy which animates the surface of the earth. The sun looses the winds, and raises the waters of the sea to the mountaintops, to form the rivers and torrents which return again to the sea; the sun warms our hearts, drives our ships, and works our steam engines. There is no sign of life or movement on our planet which does not come directly or indirectly from the solar rays."

With this power exerted by the sun, around which our earth revolves 365 times in the year, how dependent human beings are upon institutions, hospitals, churches, manufacturers, vehicles, tools, and other products of the creative specialist in order to subdue or hold in check the various units of society who lack the initiative to take their lives into their own hands! Is it not a fact that ignorance is the greatest foe to mankind? Leduc tells us that we are completely ignorant of the mode of transformation of chemical into kinetic energy in the living organism; that we know only that muscular contraction is accompanied by a change of form; that at the moment of transformation the combustion of the muscle is increased, and dur-

ing contraction the stretched muscular fibre tends to acquire a spherical shape. It is this shortening of the muscular fibre which produces the mechanical movement. *The step which we do not as yet fully understand is the physical phenomenon which intervenes between the disengagement of chemical energy and the occurrence of muscular contraction.*

Is it not at this point where intellect or consciousness, the psychic component, comes into play as the determinant in the exercise of its influence upon the material chemical elements of the organism and guides and directs its movements? Is this intelligence, or consciousness, also, not universal and is it not the most needed factor by human beings, sick or well, that its exercise may liberate the potential energy inherent in the organism and guide his movements in relation to his environment, for the purpose of acquiring a higher psycho-physiological potential? Is it not a fact that the diseased human organism needs more than anything else the specific stimulus of spoken words, ideas, concepts, viewpoints—education in short —to be conserved by his neuron elements as a part of his personality, to enable him to use his potentialities as an adaptive mechanism in its relation to his environment?

By the results that accrue from the employment of these measures for the accomplishment of a definite end, in its application as a therapeutic measure for the re-establishment of health, I do not hesitate to say that herein lies the most efficient therapeutic remedy at our command, and that its efficacy is precisely commensurate with the intelligence and motive of the physician.

The human being as an adaptive mechanism is constructed with potentialities striving for the accomplishment of a definite purpose, i. e., self preservation and species preservation, or the instinct of nutrition and reproduction. Personality itself, either regarded from the psychic or physical component, is but the result of the strivings of these fundamental primitive instincts to express themselves. In every case of illness, it matters not what be the terminological diagnosis, we face *a human being whose evolution has been retarded*, and the bacteriological findings as well as the gross pathology presented, to say nothing of the symptomatic manifestations in the psychoneuroses, such as hysteria, neurasthenia, psychasthenia and other grades of nervous and mental disease, *as well as all disease processes*, are

but an expression of a retardation or inhibition of these fundamental instincts in their efforts to find expression, due to a misadaptation to environment.

Herein is the cause back of the bacteriological causes of disease, as well as of gross pathology.

The human mind is the crowning attainment of organic evolution, but whatever be its development, in its last analysis, it is dependent upon two fundamental instincts—nutrition and reproduction—and whatever else among the many environmental factors contributing to make us what we are in health or disease, these primitive instincts will be found to be the determinants, and their intelligent and skillful guidance, in the adaptation of the individual as a biological unit to his environment, will prove our most efficacious therapeutic measure. The personality of the physician himself thus becomes the most important therapeutic measure at our command.

The conduct of each and every individual, in whatever department of life, is the logical outcome of the aspirations of the primitive or purely animal instincts. It is likely that these are one and the same thing, for, in the last analysis, all life centers down to and resolves itself into the problems of self preservation and preservation by propagation of the species; for the desire to preserve the species by the begetting of offspring, is but a desire, from another point of view, to extend our life beyond our present existence—to project our influence into future generations—in keeping with the law of evolution in general. The importance of this line of thought to the successful practice of medicine cannot be exaggerated.

It is not my purpose to go into the technic of the methods employed for the guidance of these two fundamental instincts in the therapeutics of the various diseases of mankind, more than to indicate its general scope of application. These conclusions can be briefly summed up as follows:

(1) By bringing the lives of human beings under the guidance of science, such as is available at the present time, we have a therapeutic measure that is applicable to the treatment of all diseases, at least in all cases where we are able to secure the co-operation of the patient, and this re-education constitutes psychotherapy.

(2) While psychotherapeutic measures do not constitute a complete system of medicine, the greater proportion of the

cases that physicians are called upon to treat can be successfully relieved by this means alone, without either surgical, medical or other therapeutic adjuncts.

(3) There are no diseases that can properly be called psychic, or somatic, since both physical and psychic components enter into the make-up of every organism, and of each disease process.

(4) The nutritive or self preservative instinct should be regarded with as much consideration in the treatment of the psychoneuroses as the instinct of species preservation, since we must treat the individual as a biologic unit, activated by these two fundamental emotions.

(5) Disease should be regarded as a misadaptation to environment, in which social, economic, dietetic, bacteriological, and other environmental factors are the exciting causes.

(6) Anything that interferes with the highest expression of the entire personality—physical, mental, moral—is the predisposing cause of disease, because it lessens cellular, psychophysical potential.

(7) Psychotherapeutic measures consists in bringing to the aid of the intelligence of the patient not only such measures as will heighten the resistive powers of the cells comprising the composite individual, so as to bring about a cure of present conditions, but it also consists of so re-adapting the individual to life that the treatment constitutes prevention for the future.

(8) The measure is as valuable in the treatment of all classes of professional work as it is in the therapeutics of so-called nervous and mental diseases, since it is a diseased individual that we are called upon to treat, and this embraces all of the elements comprising the composite individual.

(9) In the gastro-intestinal derangements, resulting in alimentary autotoxemia, with the ensuing cardiovascular and glandular diseases, we have a specific in psychotherapy.

(10) In the treatment of uncomplicated pneumonia, during a period of nine years, psychotherapy and medicinal agencies described in other writings in my hands proved a specific.

(11) My results were equally as successful in the treatment of typhoid, used in conjunction with other measures.

(12) Psychotherapy is applicable as an inestimable adjunct in the treatment of all of the infectious diseases, as a

means of heightening cell resistance, though I strongly commend other well proven medicinal and serotherapeutic measures.

(13) In the treatment of the constitutional diseases, so-called, we have herein the most efficacious remedy, because of our ability to raise the psychophysical potential of all the cells in the organism.

(14) In the diseases of the digestive system of adults it is equally as successful. We have herein a positive remedy for indigestion, constipation, auto-intoxication and their resulting sequelae.

(15) In diseases of the blood and ductless glands, we have herein measures that should be used in all cases, in conjunction with other therapeutic agents.

(16) In diseases of the respiratory system we have a measure unequaled by any other demonstrated measure.

(17) In diseases of the nervous system, mental diseases, and diseases of the skin, we have in psychotherapy the sine qua non to success.

(18) Diseases of the eye, ear, nose and throat, being so largely of constitutional origin, or caused by autotoxemia, and abnormal emotions, furnish a field for the most splendid results from the aid of psychotherapeutic measures.

(19) Psychotherapy might be summed up in the following definition: The application of the principles of science for the establishment of habits of right living, for the heightening of normal cellular life, and for the re-adaptation of the individual to his environment.

(20) Among the most prominent enemies of society at the present time, I believe the chief—resulting in the greatest destruction to human life—to be (1) The incitement of fear by theological dogmatism and superstition, (2) Ignorance of sexual life and laws, (3) Poisonous microbes, and lack of knowledge of how to escape their destructive action, (4) Pathology and diagnosis used as a means of controlling patients through the incitement of fear, (5) Ignorance in general, and the refusal to exercise one's own self activities as the consequence.

(21) The possibilities to be derived in the way of saving life by psychotherapy, or dynamic educational therapy, are far beyond what I have faintly indicated in this paper. Its suc-

cessful application depends entirely upon the individual physician's dominating motive and his personal qualification.

(22) The hospital treatment of the functional derangements due to ignorance, fear, and laziness, by far the most important cause of disease and unhappiness, is an outrage upon society, because ineffective.

(23) The study of diseased end products in hospitals is as nothing as a means of professional education, in comparison with the opportunity for getting acquainted with the causes of the abnormal psychology and pathological physiology furnished by observing the habits of the people in all departments of life, living in any American city of fifty-thousand inhabitants or more.

(24) Violations of right living are the sole cause of disease. The remedy consists of education, but the teaching that is offered by the medical schools of the present day, where too much attention is given to the study of pathological anatomy, and too little is given to methods of correcting the abnormal psychology, and to training the individual patient away from the habits which cause the pathological physiology, resulting in gross pathological anatomy, is not what I mean by "education."

(25) Until the educational methods in vogue are markedly improved, medical colleges and organized medicine cannot be said to exist for the people, *but for the surgeons and specialists.*

(26) At the present state of our civilization, society is yet under the dominance of the crude animal instincts, particularly as manifested in medicine and religion, but *courageous intellect* is dawning and the future is full of promise that this moral factor will so shine upon the dark places wherein now lurk impotent professional leaders, that there are those of us who believe that the highest psychic potentialities in the envolving character of mankind will yet predominate and win in the game of life.

The facts derived from science, the observed order of things must win, and the triumph over ignorance, selfishness and superstition will be a victory for all mankind. All that is needed are physicians qualified with will, knowledge and moral courage to do the work that the employment of such measures require, and patients of sufficient intelligence to be willing to

co-operate with the physicians in the application of such rational therapeutic procedures. Spaulding tells us: "The mass of mankind, if we pass the whole race in review, are sunk in gross ignorance, and even in civilized nations, where education is free, the multitude have but a crude acquaintance with the elements of knowledge. Their capacity to read and write hardly serves intellectual and moral ends: and such learning as they possess seems only to weaken their power to admire and love the best in life."

The task of applying the theory of evolution to the practical needs of the individual patient has hardly begun. Evolution is very largely a matter of adaptation to an ever widening environment, and herein lies the true solution of the immunity problem, as well as the key to many other evolutionary problems. We are either born immune to the factors which would hold in check and fetter a weaker individual through the operation of natural selection during racial existence, or we must acquire immunity by a process of variation and selection during our individual life.

As C. J. Bond expresses it (Brit. Med. Jour., Feb., 1912): "When narrowed down to essentials, there are only three ways of understanding adaptation to environmental change, just as there are only three ways of becoming immune to disease:

(1) Either adaptive change is entirely the result of external influence and the organism is as clay in the hands of the environmental potter;

(2) Or the organism initiates and directs its own adaptation independently of outside interference.

(3) Or adaptation is the result of the interaction of enviromental influence and cell potentiality."

The problem of the social reformer is how to promote the adaptation of the social organism to its environment without sacrificing the interests of the lives of the individuals during the process of reform. The problem for the physician is how to bring about immunity and resistance in the individual organism without at the same time injuring or destroying the body cells and so producing illness or disease itself. Both alike should try to accomplish the result by stimulating the exercise of this capacity on intracellular and intra-individual lines, and should only resort to intercellular and inter-individual struggle with its attendant destruction of competing

units when intra-organismal methods have failed or are incompetent to produce progress.

Hope for future progress lies in the extension of the method of adaptation by "use acquirement" and environmental control, in the improvement of environmental conditions and the banishment of diseased organisms from the human environment by measures of external sanitation, and in the destruction or reduction of the virulence of disease organisms by vaccine and chemotherapy, if they should obtain a foothold in the body.

But whatever may be accomplished by vaccine and chemotherapy, the practical results achieved by making employment of the intellect as an instrument of power, in the cure of disease by the re-establishment of health, are sustained by physics, chemistry and biology, as well as by psychology and clinical observation. Everyday experience is proving that just in proportion as man is freed from the dominancy of instinct—of passion, of needs, desires, wants, wishes and feelings—and his life guided by intellect for the purpose of acquiring and maintaining the highest possible degree of psycho-physical potential, just in that proportion does he become a capable, happy, healthy individual, free from weakness, unhappiness and disease.

There is but one way by which this may be accomplished, gentlemen, and that is by teaching each individual patient how to achieve physical, mental, moral, social, and financial independence and happiness—to equip him or her with such knowledge as to enable them *to find and fill a place of usefulness in the world.* Your success will depend entirely upon your own personal qualifications—upon such knowledge of science, practical life, of people, trades, professions, vocations, philosophies, religions and other factors that contribute to the development of human beings, as you are able to command.

Self mastery is humanity's highest, greatest, noblest achievement, and the application of scientific knowledge to promote this end, operating on and through the individual's intelligence, as an adjunct to the other measures generally employed in medical practice, is designated today as psychotherapy.

The greatest factor against which envolving man has now to contend is not starvation, or against other animals, nor against the inanimate forces of nature, but against the special

conditions imposed by the evolving man himself in the competition for mental ascendency, for leadership. Every human being is born with a certain measure of psycho-physical potentiality—capacity capable of being awakened into actuality by suitable stimuli, but in the absence of these, remaining forever dormant. Intelligent, as distinguished from purely instinctive, action implies educability, and a high order of intelligent action implies a correspondingly high educability. Lacking the necessary stimuli, psycho-physical capacity may for long ages remain dormant—unrealized. The problem that most concerns all of us today, both physicians and patients, is how to obtain the necessary stimuli? It is the problem of educators in every department of life.

We must study the individual patient, trace the cause of his disease wherever it may take us, and teach him or her to so conform to the physical, physiological, and psychological requirements of the normal human life until health will become a habit and happiness the rule of his life. Such training embraces all that contributes to the development of the entire individual and seeks to make him an athlete in body, mind and character. In short, we must teach each individual patient how to live.

Teach him (1) what to eat; (2) what to drink; (3) the kind of work and exercise best adapted to his individual personality; (4) give him a sound philosophy of life, free from dogma, cant and narrowness; (5) inform him concerning the value of the right kind of companionship and the necessity of self education. These are the five life essentials, without which no human life is complete—the absolute necessities of a life of health and happiness.

To do the work required today, at least 200,000 physicians in the United States, with our present population, would be necessary, *if only they were qualified to do the work*, and the people could be made to realize the necessity of making the proper use of them.

Are you willing to help those needing your assistance to make the fight for their lives?

EDITORIAL

Must We Forget the Old While Learning the New? A contribution from the pen of Dr. Claude A. Burrett appeared in the April issue of this *Journal*, which we feel is of more than ordinary importance at the present time. Dr. Burrett has had an opportunity to study the curriculi of medical colleges and in this paper gives his convictions very clearly. In tracing the work of our medical colleges it is a long step from the time when, in the two years necessary to spend at college to enable one to possess a diploma, the lectures of the second year were merely a repetition of the first, to that of the present, when four years are insufficient to do all the work which the standard requirements make necessary. His conclusion is that the laboratory occupies the most prominent place in our colleges and, by the way, in literary institutions, as well.

There is no doubt that the laboratory offers exceptional facilities for impressing the mind of the student with the subject which is being taught and that it has come to stay.

As applying to our own medical colleges, he pertinently inquires why we do not make more use of the laboratory method in teaching our materia medica and therapeutics. The pioneers of homœopathy did it, forsooth, because they were obliged to collect the plants and other materials with which to make the tinctures and triturations and then the potentized drug which was to be administered to their patients, and who can say that their laboratory work did not strengthen their faith in homœopathy? Why do we neglect this in the teaching of our students? True, we have no absolute need to do this work, for the pharmacist is ever ready to supply us with any drug in any potency. But do we not lose by the neglect? We must agree with Dr. Burrett that it is a step backwards and that we should seek to regain it by having our students learn to know all about the drugs by seeing, smelling and tasting them and then by making the finished product ready for the prescription. The impression would be lasting and would serve a good purpose in confirming the young physician in his belief in homœopathy. Every chair in our colleges could be made to demonstrate homœopathy in some way. It can be done honestly. Experimentation and demonstration should follow through class-

room, clinic and hospital, and in no other maner can the excellencies of homœopathy be shown to the student body. We may well ask ourselves how the student is to obtain the time for the added laboratory work which has been suggested. We think that some of the time now devoted to pathological and bacteriological work might be given up for the homœopathic laboratory. It has seemed to us that, while possibly, no one can know too much pathology, it is not likely that a majority of the graduates will ever make much practical use of it, preferring to seek the aid of a specialist, who will be able to give better results than the man who uses the microscope only rarely. Those who want to perfect themselves may do post graduate work.

If we believe that we have, in homœopathy, a system of cure superior to all drug systems, let us see to it that our colleges teach it comprehensively, so that our opponents will be unable to say, sneeringly, that there is not much difference between the two schools. This has been said too frequently.

There is one point in our college teaching to which we feel obliged to call attention, and that is the too frequent failure of the chair of Practice to uphold the chair of Materia Medica and Therapeutics. Somehow, in their most laudable efforts to teach the students what the old school considers up to date, the teachers in the chair of Practice are too apt to give undue prominence to allopathic therapeutics. We regret to say that, while homœopathic remedies are mentioned, homœopathy is, to some extent, damned by the faint praise given. The students are confused. They do not know what to do. After graduation they are too apt to turn to the plan of prescribing which seems to them the easiest and most popular. That the teachers are honest and have no intention of misrepresenting homœopathy before the students, we firmly believe, but the fact remains, that no matter how well materia medica and therapeutics is taught, unless the other departments support the homœopathic theory, the best results cannot be obtained. The student mind must be impressed with the fact that the homœopathic system of cure is superior to that of the old school and this must be demonstrated in the clinics and in the hospital wards by prescriptions made according to the law of similars. The "motif" all through must be homœopathy. Teachers who do not believe in homœopathy suf-

ficiently to teach and use this method to the best of their ability, should never aspire to places on the faculty of a homœopathic medical college. *J. B. G.*

The Renaissance in Homœopathy. *Truth* is a patient but long-lived factor. It will endure neglect, exposure, cruelty, breach of promise, treachery, starvation, strangling, even bear hugging, until its eyes bulge, but it cannot be killed.

For a hundred years the truth of similia has played somewhat the part of a football in a great game. Hahnemann gave the kick off which sent it well toward the goal of victory. Hering, Dunham, Hughes, Allen and others made ten, twenty and thirty-yard runs with it; but for the last twenty-five years it has receded from rather advanced toward the goal. The trouble has not been with the ball, but the quality of the players has not been up to that of their predecessors. Now a change has taken place. At present there is a "bunch" in the field which knows not defeat and will never cease until the victory is won.

Such has ever been the history of truth. Rarely has it rushed forward to victory carrying everything before it. It has been coy, seeking to be wooed. The Copernican truth, crept, stood, fell, rose, staggered, ran, and then triumphed. The democracy of man is a truth which the strong have ever tried to throttle lest the weak should grow strong and become their equals. But democracy is a truth and it has outlived its opponents and today sits in victory over all the earth. Similia is a truth, therefore it must triumph; but the day of its triumph depends upon the sagacity, persistence, and earnestness of its votaries.

Every discovery in medicine of any intrinsic value since the time of Hahnemann has but underscored the truth of similia, until today it is at the head of the list of therapeutic measures. Jenner foreshowed its triumph; Pasteur and Lister advanced it. Koch demonstrated it; Von Berhing utilized it, and Wright acknowledged it.

The signs are everywhere about us that homœopathy is coming into its own. It is for us to recognize the fact and seize the occasion for making sure the coming. Like all opportunities, it must be taken at the flood or it will be lost.

Note the tone of victory in the letters of Dr. Petrie Hoyle of London concerning the work of the International Council: how the best minds of Europe, the royalty, and the common people are flocking to the lectures given by our able men on homœopathy. Dr. Leon Brasol of St. Petersburgh, Russia, who is now touring the United States, tells us he expects soon to see a Homœopathic Medical College opened in Moscow. Dr. Vasconcellos of Rio de Janeiro, Brazil, at the last International Homœopathic Congress told of the splendid achievements of homœopathy in South America. He says: "In each of ten or twelve general hospitals there is a homœopathic section. In the Army there are homœopathic doctors officially recognized and eligible for military or State honors." "Its security," he continued, "seems even greater than it is in the States."

In Germany, the home of Hahnemann, there is a marked awakening to the unquestioned benefits of the homœopathic treatment. The old school are really bewildered over the marked interest and widespread enthusiasm. They do not know whether to continue to love us as they have been doing, or to fight us as of old. The better thinkers amongst them see the wisdom of doing neither, but to recognize our principles.

Note what the Editor of the new-born "Cincinnati Medical News" says: "It is a pleasure to chronicle the renewed activity of the followers of Hahnemann. While the Editor of the *Medical News* is an exponent of the old school, he is devoting its pages to furthering the best interests of every school of medicine. In this day and generation to do less would be to stultify the name of medicine."

Victory is ready to perch upon our banners. What shall we do to secure it while it hovers? Get together, get together, get together ten thousand strong! Show the American people that we have the courage of our convictions; that we are willing to lay down our home duties for a week and join the Army at Atlantic City, which is gathering for a signal victory!

Mr. Homœopath! there has been no period in the history of our schol in which you are more needed, or will be of more value than just now! Enlist in the Atlantic City Army!

DeW. G. W.

Hospital Ratings by the American Institute of Homœopathy. These are the times of standardization. Knowledge and facts count for little until they are classified and arranged, tabulated and registered. This kind of work is called scientific. It matters nothing whether the classification of data pertains to states and conditions in nature, in society, in medicine, in institutions, it is all included in the term scientific classifications. Following upon the laws and rules regulating medical colleges and their ratings by lawfully qualified boards there is going to be, certain enough, some effort by state boards or other designated or assumed authority towards a listing of hospitals. Probably the Carnegie Foundation will cut a large figure in the ratings. All our institutions in which clinical work is performed are going to undergo inspection sooner or later. Private hospitals and sanatoria, like proprietary medical colleges, will, of course, furnish the first chips for the ax. Then institutions not maintained for profit or direct gain will be dealt with.

Among the constructive labors mapped out by the Board of Trustees of the Institute is the addition of one member to the Council of Education whose special labor will be collecting data of the Homœopathic Hospitals through the country and the preparing of a special report. This report will be of great service to the officers of the organization. It will contain a fund of exact information for the instruction of the general profession, who up to this time appear to have had only hazy ideas of our institutional service. More than this, the report will be very useful, when the time comes, to state boards, special hospitals examiners and such other persons as will be, individually or officially, interested.

So far as we know, no other medical organization has set about preparing definite hospital statistics or authoritative reports. Dr. C. E. Sawyer of Marion, Ohio, a man of large experience and wide acquaintance in medical as well as in business circles, is the new members of the Council entrusted with the hospital feature of the educational and clinical problem. A better man could not be selected for the task. Dr. Sawyer has entered upon his labors with enthusiasm and as his preliminary step has distributed blanks to the various institutions for their statements. *W. B. H.*

Homœopathy and the Medical Sciences. In his discussion of Homœopathy and the Medical Sciences in the April number of this *Journal*, the writer appears to us to be a little oversensitive to the criticism of the A. M. A. concerning homœopathic medical colleges.

We agree with these men that a thorough training in the medical sciences is fundamental to a liberal education in medicine; but, we do not agree with them entirely in what should constitute such an education.

On the contrary, we have a feeling that the advanced standards chosen arbitrarily for us all by the Council on Medical Education of this association of some of the medical practitioners of this country, provide too particularly for these very medical sciences to the neglect of other subjects of more practical importance to physicians in actual practice. Nor are we so sure that his "recognition by the State" will come to the homœopathic physician when he becomes more proficient in these medical sciences.

In this matter of standards, we think it should be remembered that the professional efficiency of the homœopathic physician has been "recognized by the State" for many years, and by thousands of intelligent people, but it has never yet been recognized by the "standards" of the A. M. A.

If, as homœopathic physicians, individually or collectively, we become preoccupied in developing the natural sciences to the neglect of our own particular field, there will be little occasion to worry about the status of the future homœopathic physician. In that event, we shall probably find ourselves equally proficient in the natural history of diseases and equally inefficient in the treatment of human beings.

Or, if we acquiesce too readily in the present tendency to mediocratize all practitioners of medicine by arbitrary "standards" for the preliminary and professional training of the coming physicians, and the "standards" of the A. M. A. become the statute laws of the land, it will be futile later to demand other standards.

While there can be no great objection to adding one more special Bureau on the Medical Sciences to the American Institute of Homœopathy, which might include anatomy, histology, embryology, chemistry, bacteriology and morbid anatomy as such, it does seem more important just now from the prac-

titioner's point of view for the Institute to devote itself systematically and persistently to conserving the interests of the individual homœopathic practitioner, during college days, first, by insisting that our homœopathic institutions apply their resources primarily and particularly to *research* and *practice along our own distinctive lines;* and, after graduation, by organizing a determined resistance in nation, state, and county to the organized movement of the A. M. A. to make "Medicine a Function of the State;" also, by conserving the second and third generations of present homœopathic families through a systematic and persistent propaganda for an exact and equal official recognition of our practice in the preparatory schools, boarding schools, colleges and all other public and semi-public institutions. (The force of this latter contention has been repeatedly urged upon our Committee on Propaganda without making any appreciable impression upon it.)

For the future homœopathic physician, this matter of standards has a real educational significance as well as a political bearing. The homœopathic practitioner must of necessity be an individualist in the practical application of his art. The present trend, to make every legal practitioner fit the same pattern from his preparatory days till graduation, is well calculated to standardize all originality and resourcefulness out of the individual physician, and land him upon the public a mediocre natural scientist but not a resourceful and practical physician.

Lest we seem to be alone in our contention against this too-much-standardization of medical education, we would call attention to an excellent paper presented at the Tenth Annual Conference of the Council on Medical Education by no less a figure than Dr. A. Lawrence Lowell, President of Harvard University. He distinctly warns against the danger of executive formalism in educational standards by the following pertinent words: "Americans are a mechanical people who trust to machinery to do their work, maintain standards and save labor. But, mechanical devices applied to human beings are apt to be defective, and in education they present, at the present, a real danger. This runs from the top to the bottom of the educational scale."

We have nothing to fear for the sufficient training of the future homœopathic physician in the medical sciences. The

A. M. A. can be depended upon to attend to that. But, because of a too ready acquiscence in the consistent political policy of this same association and its arbitrary standards we are not so sanguine about his actual professional usefulness or his future unhindered opportunity to practice his art upon even terms with other practitioners—even after years spent in complying with them. As Dr. Lowell again suggests, may we not be inadvertently helping to require "not a result but a process?"

The American Institute of Homœopathy should attend to this. *E. L. N.*

Microbes and the Ultraviolet Rays. The daily press of April 11, announces from Paris the published account of Mme. Henri, describing the effect upon microbic life of carefully regulated exposure of anthrax bacilli to the ultraviolet rays. Some of the microbes were destroyed, others were transformed, becoming round instead of long. Inoculation from the culture of the transformed microbes caused an illness quite different from that of anthrax. The experiments indicate evolutionary change in microbic life under the action of light. The French nation is particularly kind to scientific workers, wherever found and whoever they may be.

The daily press of April 14 furnishes a report from the Congress of Surgeons, of similar work being done in America in conection with the study of ulcers of the stomach and duodenum. These experiments will be followed with much interest. *S. M. H.*

The Boy of Thirteen. Nothing helps to clarify the atmosphere on sex hygiene more than the practical application to "my boy of thirteen." William A. Brady, in a recent talk at the New York Press Club on theaters and the newspapers decried sensationalism, sex plays and muck-raking in the theater.

> **"The newspapers ought to join with the decent element in the theatrical business to stamp out this sort of thing. I have a boy of 13 at home, and as he is my son and pretty well known he can enter almost any playhouse here, but I want to tell you there are ten or twelve shows and ten or twelve places on the blacklist up at my house. He doesn't go to them. I am no angel myself. Fourteen years ago the mayor of New York closed up the Union Square theater for me, but I was young and foolish. I had no boy of 13 then."**

The revolt against dramatic sensationalism has already started. Clean lives and good standards are gradually gaining ground. One needs only to be a student of history to recognize the general onward movement in spite of the backward-setting eddies of extravagance and self-indulgence. *S. M. H.*

A GIFT TO THE INSTITUTE.

Dr. Samuel P. Hedges, 1048 Wilson Avenue, Chicago, who is about to retire from active practice, has presented to the American Institute of Homœopathy his complete file of Transactions and Journals, since the organization of the Institute in 1844. In these days of apartments and crowded storerooms, it is rare to find outside a library a series of publications covering seventy years of organization. The Institute is fortunate in securing this gift.

JOURNALS WANTED.

In order to complete the files of several subscribers, copies of the following dates are desired: April 1909, October 1910, July 1911 and August 1911.

APPLICATIONS FOR MEMBERSHIP IN THE AMERICAN INSTITUTE OF HOMOEOPATHY.

Endorsed by the Board of Censors.

Harry Cleveland Cheney, 317 Main St., Palmer, Mass.
Bernice A. Fleek, 2814 Groveland Ave., Chicago, Ill.
Sylvester Reeves Ridley, 4330 Greenwood Ave., Chicago, Ill.
Mary E. Potter, 290 DeKalb Ave., Brooklyn, N. Y.
Wm. Blackwood Welch, Woodruff Bldg., Joliet, Ill.

Institute Program.

A MIXTURE OF MEDICINE AND THE SEA SHORE.

DeWitt G. Wilcox.

Few physicians need to be reminded that the American Institute of Homœopathy meets at Atlantic City June 28 to July 3 inclusive. The meetings at this popular resort are always well attended but this year promises to eclipse all others both in the number in attendance and in the general interest displayed. There is an unmistakable evidence of a widespread enthusiasm all over the country concerning homœopathy. It begins to take on the complexion of an old time revival.

The lukewarms, the weak-kneed, the chronic knockers, and the doubting Thomases seem to have received a hypodermic injection of co-operation serum and are falling over themselves to help boost the Institute. Even the fence straddlers, who seem never to know upon which side it is best policy to light, have sent word that they are coming.

One member from Rhode Island writes, "It is not a question in this state *who* is going to the Institute, but rather, *who* is going to stay home to look after the patients."

Numberless letters are daily coming to the officers of the Institute expressing the highest hopes and the profoundest belief that the coming meeting will far eclipse anything ever yet held under homœopathic auspices. It was a remarkably significant fact that out of one hundred and fifty physicians who were requested by letter to take the onerous task of pledging themselves to secure ten new members each and thus become the President's Cabinet of One Hundred, one hundred responded within a few weeks, and up to date eighty have accepted the job with enthusiasm.

Nearly every Bureau Chairman has had responses from more essayists than he has had places to fill. North, East, South, and West give evidence of the same intense desire to co-operate in making the coming meeting the greatest ever held. There is no alternative about the matter; we must do it, and we must do it now. Our future existence hangs in the balance. That we can and will do it there is no shadow of a doubt.

Dr. Costain, Chairman of the Transportation Committee, has his arrangements completed for a special splendid train from Chicago, which will bring all the members from the Northwest to Philadelphia, Washington, and Atlantic City *en masse*. The Philadelphia and Washington fellows have their plans completed to entertain, by trolley and auto rides, the arriving guests during the few hours' stop allotted in those respective cities.

All of the meetings will be held in the comfortable, commodious, and fireproof hotel, the Chalfonte. The meeting rooms are far removed from the noise of the ocean and street traffic. Members who are fortunate enough to secure rooms in the Chalfonte will not be obliged to leave the hotel for any of the regular meetings. Hence, be wise and engage your accommodations at once. The Chalfonte is conducted on the American plan exclusively; prices from $3.50 to $6.00 per day.

Many concessions have been secured, which will place all of the attractions of the Board Walk and Beach at a nominal cost. Numerous delightful entertainments, including a deep sea sail, have been arranged for the guests without cost. The last evening, Friday July 3, will be a frolic night, at which

every visitor is expected to be present. Nothing like it since Barnum's time!

Come to the Institute meeting! Show your loyalty to the Cause which gives you your bread and butter; learn something which will make you a better doctor; give something which will help the other fellow to be as successful as you have been! Let your patients know that you are progressive and are going for their benefit. Come and thereby get a change of environment and faces, essentials for longevity. Come and have a bully good time, for you may not have it in the hereafter!

The Local Entertainment Committee plan the usual reception and ball for Monday evening of the Institute week, a deep sea sail for Wednesday afternoon; Wednesday evening to be left free for alumni dinners and special entertainment.

The Country Club will be open to Institute members, also the Steel Pier. Tea will be served at the Yacht Club, on the return from the deep sea sail. The headquarters of the Meissen will be at Marlborough-Blenheim. Social festivities will mark the week's program.

Dr. William W. Van Baun of Philadelphia has accepted the appointment of orator at the Memorial Service, Sunday evening, June 28.

Bureau of Pedology.—Dr. Cameron announces a symposium on "The Physician as an Educator of Parents," with papers by Drs. Cobb, Sprague, Carleton, Ekings, Raue and Benson.

Surgical and Gynecological Society.—Secretary Scott Parsons presents a varied program with the following names: Drs. Wilcox, Smith, Sawyer, Emerson, Burrett, Walton, Foote, Foster, Biggar, Hassler, Kinyon, von Bonnewitz, Krauss, Beebe and Ashcraft.

*__Wanted__—1,000 members for the American Institute of Homœopathy. New members contemplating entering the National Homœopathic Organization, take note: "For the purpose of enlisting young physicians in active membership," graduates within three years from date of application, are admitted under the following ruling: Two dollars for the first year. This must acompany the application, and covers the annual dues of the Institute, and the subscription to the *Journal* the first year, then one dollar additional each year until such members are paying five dollars annual dues. Those applicants graduated more than three years shall pay the sum of three dollars towards defraying the expenses of the Institute, and may pay two dollars for the subscription to the *Journal*

* Repeated by request.

of the Institute. Send remittance by check or money order with your application properly signed and endorsed. For application blanks and further literature, "Why You Should Join the American Institute of Homœopathy," address the Chairman of the Membership Committee.

Dr. Ralph Bernstein,
37 South 19th St.,
Philadelphia, Pa.

Correspondence.

INTERNAL MEDICATION.

San Francisco, March 28, 1914.

Editor, *The Journal of the American Institute of Homoeopathy:*

The editorial on page 826 of the March number of the *Journal* signed G. M. McB. shows the most complete and abject surrender of the principles the homœopathic school stands for and the *Journal* is supposed to uphold that has ever appeared in homœopathic literature, as well as being thoroughly bad advice.

To say, as this article does, that in this acute but simple morbid process internal medication is "absolutely a secondary matter"—which is equal to saying that it is of indifferent use or no use at all—makes a claim of virtue for the homœopathic remedy in more serious conditions seem absolutely silly. If the simple acute accompaniments of simple acute colds are beyond the reach of the properly selected remedy then it is time we cease to pretend to have faith in and a knowledge of a superior method of cure.

For the writer to say that we have only a mechanical condition to deal with and require "mechanical treatment as we would in a fractured or dislocated bone" is to ignore in the treatment every phase and stage of the process except the very last, which we admit is *largely* mechanical. This is where the bad advice comes in. Where is the "serum and mucus" blown if not into the middle ear and even the mastoid antrum? and who has not seen a noninflammatory process converted into an active inflammatory one by this simple procedure of blowing the "serum and mucus out?" The Politzer bag is a very useful instrument in the hands of a man who knows *when* as well as how to use it; and in the condition spoken of in the editorial the *when* is much more important than the how.

For the specialist to give advice to the general practitioner is very commendable, but in a matter beset with such dangerous pitfalls as an acute or possible acute inflammation of the

middle ear and mastoid antrum the best and safest advice he can give is to stick close to his homœopathic remedies.

Very sincerely,

Philip Rice.

PLACE OF MEETING.

The Committee on Place of Meeting of the American Institute of Homœopathy in 1915 is now ready to receive invitations from cities or summer resorts. Said invitations must be accompanied by information concerning hotel accommodations and rates; must state where the hall for meetings is located and give its seating capacity—number of rooms available for meetings of sectional societies and where these are located in relation to the hall for meetings, also rooms for Treasurer, Registrar and Committees, number of square feet of space for exhibits and whether exhibits will be displayed in same building in which meetings are held.

Applications containing specifications on the above points and any special advantages that may be offered should be sent at the earliest possible date to

Thomas H. Carmichael, M. D.,

7127 Germantown Ave.,
Philadelphia, Pa.

Chairman Committee on Place of Meeting.

Society Announcements.

SOUTHERN HOMŒOPATHIC ASSOCIATION

To the members of the Southern Homœopathic Medical Association, it is with both pleasure and pride that I announce the Bureau Chairmen who have so far accepted their assignments for the session in Baltimore next fall.

At the head of the list, where he belongs, stands that stalwart *Similia*, Dr. J. B. Gregg Custis of Washington, D. C., who will head the Bureau of Homœopathy and Propagandism. This assures us something interesting in that ever important subject. Following comes an array of good men that are peer of any set who have ever attempted to provide a program for any society: Materia Medica: Dr. Wm. A. Boies, Knoxville, Tenn.; Pedology, Dr. A. L. Smethers, Anderson, S. C.; Obstetrics, Dr. Spencer R. Stone, Atlanta, Ga.; Ophthalmology and Otology, Dr. M. B. Coffman, Richmond, Va.; Clinical Medicine, Dr. Wm. R. McCreary, Knoxville, Tenn.; Sanitary Science and Public Health: Dr. F. A. Reed, Eustis, Fla. The

Bureau of Surgery has not yet been filled but I hope will be soon.

If this set of men fail to provide a program that will eclipse anything ever heard in our society, then I shall be dreadfully disappointed. Besides, the brethren in Baltimore have rallied to our support and appointed a committee of twenty-five to look after our creature comforts and the community will furnish a fine audience for our men to address. The colleges are expected to have representative displays there and good men from their faculties will address the meeting.

It is with regret that I am compelled to announce the resignation of our genial secretary, Dr. J. Burnie Griffin of St. Augustine, Fla., who owing to the demands of a large and lucrative practice found himself unable to give to the society the time its work required. Our regret at losing his valuable services is tempered by our pleasure at his splendid success. Dr. J. L. Jennings of Danville, Va., has been appointed secretary and will give prompt attention to any work in that line.

The local committee of arrangements is headed by that hustler, Dr. H. M. Stevenson of Baltimore, and that is sufficient assurance that we shall be well looked after at that end. Altogether we feel sure that we are going to have the best meeting we have ever had.

Fraternally,

J. Leonard Jennings, Sec'y. H. E. Koons, Pres.

ILLINOIS HOMŒOPATHIC MEDICAL ASSOCIATION

May 12th, to 16th, 1914

General Announcement

The Executive Committee will submit this year a program of which it is particularly proud. The various groupings of physicians, surgeons and specialists have all been considered and such an array of talent as will appear has never been excelled. The program is self-explanatory and your attention is directed to it for details.

Ladies will find headquarters of the After Dinner Club in the Hotel La Salle. Members will please register early. A maid will be in attendance to check bags and wraps.

Your attendance is particularly desired at the opening business session on Tuesday, May 12th, at 11 a. m. At this session important committee reports will be presented and should receive the consideration of as many members as possible.

The various bureaus were never so replete with interesting and instructive material as this year and the special features to which the laity as well as the profession are invited are more abundant and should serve as greater attractions than

those of previous years. Miss Emily Harris, instructor at Davis Square, will be the guest at the After Dinner Club, Tuesday evening and will talk on "The Playground and the Young American Citizen." Members of the club are urged to extend an invitation to any who are interested in the playground work. Reservations must be made Tuesday afternoon.

Your attention is called to the fact that we are to have with us on Wednesday at 2 p. m. Professor Allan Hoben, who so delighted us last year with his lecture on "The Modern City and the Normal Boy." Professor Hoben's subject is to be announced later.

In the Bureau of Neurology, Psychology and Electrology, which follows on the same day, the subject of "The Psychology of the Girl" will be presented by Miss Augusta F. Bronner, Assistant Superintendent of the Juvenile Detention Home, Chicago. This paper will be discussed by Professor James E. Armstrong, principal of the Englewood high school.

On account of the attractions of the Obstetrical Bureau and the general interest of the profession in the subjects to be discussed, it was thought best to give this bureau all of Wednesday evening. You will note by reference to your program that such a varied list of subjects, to be presented by such well known authorities, is a combination of circumstances such as we rarely have an opportunity to enjoy.

The Eye, Ear, Nose and Throat Bureau, in addition to subjects of particular interest to the specialist, will present as a special attraction a paper by Dr. McCleary of Cincinnati, Ohio, on "The Effect of Tonsils and the Removal of Tonsils upon the Voice."

Your attention is particularly called to the Bureau of Sanitary Science which presents such interesting speakers as Warden Edmond M. Allen of the Joliet Penitentiary and Superintendent Whitman of the Bridewell, who will discuss the relations of insanitary and unhygienic surroundings to criminology. In this same Bureau Dr. Julia Strawn will tell us of her impressions of Biloby Prison, Manila, P. I.

Immediately following this Bureau, the Bureau of Homœopathy will be called and papers will be presented by such well known authors as Dr. DeWitt G. Wilcox, Boston, Mass., president of the American Institute of Homœopathy, Doctors Cobb, Hanks, Bailey, Aurand and Hobson of Chicago and Doctors Neiberger of Bloomington and Honn of Champaign.

On Thursday at 6:30 p. m. there will be a joint banquet in the Hotel La Salle, given by the Illinois Homœopathic Medical Association and the Illinois State Eclectic Medical Society. The speakers at this banquet will be Dr. DeWitt G. Wilcox of Boston, Mass., Dr. W. P. Best, Indianapolis, Ind., Secretary of the National Eclectic Medical Society and Dr. Albert A. Ogle, Indianapolis, Ind., who gives an address on "Venereal Dis-

eases; their Relation to Public Health and Economics." This lecture will be illustrated with kinemacolor motion pictures in nature's own colors.

On Friday, May 15th, the Association has accepted an invitation to spend the day at Hahnemann Medical College, where the entire day will be devoted to clinics. The clinic schedule will be found in the program.

The central location and abundant facilities of the Hotel La Salle are well known; the rates are standard and the comfort of the guests is assured.

G. M. Cushing, Secretary.

General News.

California. San Francisco is sure to do something which brings it into the limelight. One of the recent things is the disastrous sequence to intraspinal injections for syphilis. When the people have grown weary of hypodermic medication, they will swing back to the old fashioned preference for the way by the stomach.

Los Angeles seems to be the city of medical fads and cafeterias, not to mention real estate promoters and grafters in general. To a new comer, the impression is that there are more osteopaths, naturopaths, chiropractors, Christian scientists and drugless healers in general, than in any other city in the world. The drugless healers, so-called, not including the other various cults mentioned, have a local society of one hundred and eighty members. Surely if any state needs a medical examining board to protect the dear public it is California. However, up to the present time, they do not seem to have accomplished much, unless it be to keep out good men who appear to possess all the qualifications to practice medicine. And cafeterias! Well, it appears to be almost a crime in Los Angeles for anyone to sit down at a table and eat a square meal with a waiter in attendance.

Illinois. Working under a new constitution, the Chicago Homœopathic Medical Society nominated the officers for the new year from the floor, instead of proceeding by way of a nominating committee. The officers elected are Dr. Elmer E. Vaughan, president; Dr. C. D. Collins, vice-president; Dr. Theodore Bacmeister, secretary; Dr. Costain, trustee for three years. The treasurer is elected by the board of trustees. The society has announced its policy to be in favor of establishing a separate homœopathic board of examiners in Illinois.

Dr. Julia Holmes Smith, the recognized leader among the women in the democratic party, recently gave an able political address before the women of Wilmette.

One young woman has demonstrated to her satisfaction that the county hospital of Cook County needs the infusion of a new kind of politics. She went to the hospital for a surgical dressing. The case was pronounced a hospital case. And she was remanded to the waiters' seat in the basement waiting room. And there she sat from morning until seven at night before she was assigned to a bed. A recent bulletin from the Board of Health illuminates the situation by saying: "The county has about 120 beds for scarlet fever, and by putting two in a bed, has managed to take in 170." Two scarlet fever patients in a bed, and the county board still haggling over the number of neckties a commissioner may be allowed on his expense account!

Warden Allen of Joliet is working out the penitentiary problem along the line of the humanities. He will relate some of his experiences at the state meeting on Thursday afternoon, May 14th. Superintendent Whitman of the Bridewell, and Dr. Wilcox of Boston will contribute to make the session a full half day.

Dr. Albert A. Ogle of Indianapolis will be the guest of the Association and give an address on "Venereal Diseases" on Thursday evening, May 14th.

The *Civil Service News* reports an opening for a homœopathic physician in a New York institution; $900 to $1200 a year and living.

Dr. Clare Garber lost her entire office outfit in the fire which swept Powers' Block in Decatur. Dr. Garber has secured rooms in the Citizens' Bank Building, and is again at work.

Miss Augusta Bronner, Assistant Superintendent of the Juvenile Detention Home, will present a paper on "The Psychology of the Girl" at the coming state meeting, while Professor Hoben will give an address on some phase of the boy's life. The varied program and the day of special clinics at Hahnemann Hospital on Friday, the 15th, make the week, as President Calvert characterizes it, "a short postgraduate course of no mean importance."

The Society of Homœopathicians, under the presidency of Dr. Alonzo E. Austin of New York, will hold its annual meeting at Hotel Sherman, May 22 and 23.

The Business Men's Association of Sterling joined the Rock River Institute of Homœopathy at the April dinner at the Sterling Club. The after dinner program was a conference on matters of general medical interests, under the direction of the president, Dr. A. E. Smith, of Freeport.

Dr. St. Clair Drake of Chicago has been appointed by Governor Dunne a member of the State Board of Health. Dr. Drake has been in public health service on the Chicago Board of Health for twenty years and has been remarkably success-

ful in designing the educational posters which have been a striking feature of the weekly bulletin of the Chicago Board of Health. Any appointment which enhances the educational feature of health boards is sure to be wholesome.

The After Dinner Club announce their annual dinner during the session of the Illinois Homœopathic Association for the evening of the first day, Tuesday, May 12th, at six-thirty, at Hotel La Salle. Miss Emily Harris, Instructor at Davis Square, will be the guest of the evening, and will speak on "The Playground and the Young American Citizen." The members are urged to extend the invitation to any who are interested in the work of the public playground.

Dr. C. Gurnee Fellows of Chicago will move his office May first from the present location in the Marshall Field Building to the Michigan Boulevard Building, 30 N. Michigan Boulevard.

Indiana. Dr. Clifford Mitchell of Chicago was the guest of the Marion County Medical Society in Indianapolis recently. His paper on Nephritis and Toxemia of Pregnancy was discussed with much interest by Drs. George, Haggard, Clarke, Ogle, Best, Stewart and Taylor. Dr. Mitchell contributes a paper upon this subject to the Bureau of Pathology and Clinical Medicine at the Institute in June.

The many friends of Dr. Rebecca George of Indianapolis are saddened by her sudden death, April 17th.

Iowa. The Homœopathic Club of Iowa City is busily occupied in completing the arrangements for the Iowa state meeting, the 19th, 20th and 21st of May. Dr. Wilcox will be the guest at a banquet on the evening of the 19th. Clinics in all departments will occupy the morning hours. President Richardson and Secretary Huntoon have had the co-operation of the entire local profession.

The alumni association will have its banquet the evening of the 20th, with an after dinner program and election of officers.

The Laysan Island exhibit of the University will be opened to visitors during the meeting of the state meeting.

Massachusetts. The Western Massachusetts Association recently entertained as guests Drs. Blodgett and Conrad Wesselhoeft of Boston, who presented papers at the annual meeting. The officers for the ensuing year are Dr. Erdix D. Smith, Springfield; Dr. Grace Stevens of Northampton and Dr. Alban Lobdell of Winchester, N. H., vice-presidents; Dr. Mathias Conrow of Springfield, secretary-treasurer.

Dr. Amanda Bray of Worcester was one of the patronesses at the April dance of the Junior Board of Hahnemann Hospital.

Michigan. Dr. Dean T. Smith, professor of surgery in the University of Michigan since 1901, has resigned his chair in order to take his family to a more favorable climate.

The regents of the University have appointed Dr. Hugh McD. Beebe of Sidney, Ohio, to the chair of surgery. Dr. Beebe was graduated from Michigan in 1907, and is Surgeon to the Third Regiment, Ohio National Guards. During the flood a year ago, he was in charge of the sanitary and medical emergency service.

Governor Ferris, President Wilcox and Dr. C. E. Sawyer will be the guests of the state society at Saginaw, May 12 and 13.

Minnesota. The annual meeting of the Minnesota Institute will come on the 21st day of May. The social side of the program is in the hands of the Women's League, an energetic organization which has undertaken a systematic study of food values.

In commenting on the College of Surgeons, Dr. Aldrich of Minneapolis, voiced the opinion of a goodly number when he said, "Knowing the old school as I have for the past thirty-three years, knowing their attitude toward our school, I have felt very skeptical ever since I had the matter of the American College of Surgeons broached to me, and I doubt me if outside of the few men from our school already in the College of Surgeons, that there will be many others who will become members of that association. The rank and file of the old school of my acquaintance, if I may speak of them in that way, feel very much as does Dr. Runnels when he intimates that there is a possibility of there being an 'I am holier than thou' spirit predominant in the American College of Surgeons."

Missouri. Dr. Tisdale of Joplin is planning an interstate meeting in the fall for the special consideration of homœopathic therapeutics.

The joint state meeting of Missouri and Kansas will be followed with interest. Kansas City is an excellent location for the promotion of neighborliness. President Wilcox and retinue of the A. I. H. will be guests of the members. Dr. Parsons is sending out a special invitation to any member of the medical profession to join them May 14th-16th.

Dr. Maclay Lyon, of Kansas City, places his private laboratory at the disposal of the homœopathic profession for microscopic and chemic examination. The laboratory is the necessary adjunct to the doctor's special work in diseases of stomach and kidneys.

Nebraska. Dr. Martha Clark, President of the Institute Fraternity, has sent out the annual announcement rallying the medical women to the Atlantic City session. Dr. Clark re-

minds the membership that last year the Fraternity turned over to the Institute treasury one hundred dollars for propagandistic work. The Fraternity was organized at the Niagara Falls session. At Atlantic City in 1906, the contents of the treasury were sent to the medical women who suffered losses in the San Francisco fire. At the session at Kansas City, the treasury balance was given to the propagandistic fund. But money raising is only an incident. The purpose of the organization is social, getting acquainted with each other.

New Jersey. The Breakers at Ocean City is the place chosen this year for the state meeting of New Jersey, May 6 to 9.

New York. At a recent meeting of Kings County Society, a tribute was paid to Dr. Daniel Simmons. Dr. Simmons was one of the Seniors of the Institute, having joined in 1881.

The officers of Kings County Society for the coming year are Dr. John F. Rankin, president; Dr. Walter Walmsley, vice-president; Dr. L. D. Broughton, secretary; Dr. Alfred Bornmann, treasurer.

Dr. George F. Brewster, of the medical staff of Middletown State Homœopathic Hospital for the Insane, is in charge of the clinics and lectures given annually to the senior class of the New York Homœopathic Medical College. The students make the trip to Middletown willingly for the sake of the excellent clinical material there furnished.

Ohio. Dr. Gilbert FitzPatrick of Chicago was guest of the Dayton Homœopathic Medical Society in April and gave an illustrated lecture on "Deformities of the Pelvis."

Dr. James Krauss of Boston was the guest of the Cleveland society in April, presenting "Therapeutic Laws." The Cleveland physicians are lively disputants and there was a general discussion. There will be no local meeting in May because of the state meeting at Columbus, the 11th and 12th.

Dr. Hedges-Brady has been out of her office for a week because of a call to Mansfield, where an uncle, H. C. Hedges, has been very ill.

The Medical women of Cleveland have united in the management of the Women's Hospital. The hospital is full and the work is going on in a splendid fashion. We believe the principle underlying the feminist movement will ultimately unite the medical profession.

A town near Millersburg is without a physician. This is a good opportunity to build up a country practice in the midst of a prosperous community.

The Homœopathic Medical Society of the great state of Ohio is to have a golden jubilee, if you please. For fifty years the society has been working for the interests of homœopathy

in general and the doctors of our school in Ohio in particular. It has done great work and at the coming meeting at the Southern Hotel, Columbus, Ohio, May 11 and 12, the world is to hear all about it. A great program is on. Great speakers are to be there. No one can afford to miss it.

The evening following his address to the Cleveland Society, Dr. James Krauss, Boston, was the guest of the Lyceum of Cincinnati. Dr. S. R. Geiser was his host.

Pennsylvania. Pennsylvania is a state of many private schools. The old school of practice is well organized. If you doubt it, you who have children in school in the Quaker state, ask that your children may have the attention of a homœopathic physician as they do at home. Within five miles of Bryn Mawr, for instance, there are at least 1,728 students from all parts of the country: Bryn Mawr College, 450; Baldwin School, 236; Shipley School, 75; Wright School, 45; Kirk School, 12; Haverford College, 180; Haverford School, 300; Villa Nova College, 350; St. Luke's School, 90. This is but one "school community" of many in this country. It must be made up of a considerable percentage of students to whom the above applies. In Bryn Mawr College there is no choice but the allopathic college doctor; in others, an homœopathic physician can be had by *special* request.

Mrs. William Manzke announces the marriage of her niece, Miss Mary Ellen Miller, to Dr. Edwin Austin Steinhilber.

The Homœopathic Hospital of Pittsburgh opened the new hospital on Centre Avenue for inspection and received their friends on the date of the annual meeting, April 14.

Wisconsin. Dr. Rhoda Barstow and Dr. Mary Cornell of Chicago are scheduled in the bureau of pediatrics at the state meeting in Milwaukee, May.

Change of Address.

From Membership List in Journal of November, 1913.

	Moved to
J. A. Rice	Knob, Shasta County, Cal.
Boolsen, S., Oakland, Cal.	2284 E. 14th St.,
White, George Starr	Box 474, Los Angeles, Cal.
Moth, Robert S	Council Bluffs, Ia.
Rice, F. T	1752 W. Chicago Ave., Chicago, Ill.
Ferguson, Allan H	907 Fullerton Ave.,
Benham, Frank A	109½ Marion St.,
Blakeslee, M. O	General Delivery.
Young, Willis B	3620 Blaine Ave.,
Bryan, Kathryn M	Bear Lake, Mich.
Wilkins, G. H	43 Elm St., Milford, N. H.
Sturtevant, C. A	Amoskeag Bank Bldg.,
Smith, Frank E	202 W. 55th St.,

	Moved to
Cooley, David B.	Ellis Hospital, Schenectady, N. Y.
Keese, J. M.	314 Summit Ave.,
Colt, E. S.	Mt. Washington, Mo.
Loomis, W. H.	547 Eddy Road.
Bryant, C. P.	904 Cobb Bldg.,
Brown, E. A.	Carroll Block,
Hale, P. E.	513 Eilers Bldg.,
Hunsicker, Wm. C.	1625 Race St.,
Hanscom, W. V.	37 Merrimack St.,
Mercer, Edward	24 South 21st St.,
Mercer, Warren	24 South 21st St.,
Russell, Lida B.	Walters Park, Pa.
Clark, Edward P.	1209 First National Bank Bldg., Pittsburgh, Pa.
Stephens, Edna H.	78 Columbus Ave., Somerville, Mass.
Hanscom, W. V.	205 Groveland St., Haverhill, Mass.

Obituaries.

Dr. Woodward D. Carter, member of the faculty of Hahnemann Medical College of Philadelphia, died at his home March 8, 1914. Dr. Carter was a member of the Homœopathic County Society, the Homœopathic Society of Pennsylvania, the American Institute of Homœopathy and other medical societies. His widow, his mother and father and one brother, who is a missionary in India, survive him.

Dr. George F. Roberts, a senior in the American Institute, died at his home in Minneapolis, March 23, 1914. Dr. Roberts was formerly a member of the faculty of the Iowa Medical College.

Dr. Daniel Simmons, also a senior in the Institute, died at his home in Brooklyn, N. Y., March 18, 1914. Dr. Simmons was a veteran of the Civil War and a member of the Cumberland Street Hospital consulting staff.

Dr. Leila G. Bedell, one of the early medical women of Chicago, died at her home in Tryon, N. C., March 28, 1914. Dr. Bedell came to Chicago shortly after the fire and was active in all social and philanthropic movements. For several years she was on the Board of Visitors, Boston University School of Medicine.

Dr. A. H. Tompkins died at his home, Jamaica Plain, Mass., Feb. 14, 1914.

Society Programs.

California. Reported by Dr. A. C. Cowperthwaite. The Los Angeles County Homœopathic Medical Society met March 11. The following papers were read and discussed: Hygiene of Obstetrics, C. R. Clapp, M. D. Should measles and whooping cough be quarantined? Anna Dewey Chapin, M. D. Staphysagria, H. R. Shepherd, M. D.

Illinois. Chicago Homœopathic Medical Society. Meeting of March 19, 1914. Reported by the Secretary, Theodore Baceister, M. D. At the March meeting of the Chicago Homœopathic Medical Society Dr. Peter Clark presented a paper on "The Treatment of Menstrual Irregularities by the Administration of Glandular Extracts" in which he gave some of the most recent theories relative to the menstrual function and the results of late experiments in the transplantation of ovarian tissue and the internal administration of ovarian preparations.

Dr. George McBean talked upon "The Conservation of Hearing," calling attention to the fact that otology is properly a science of prevention rather than of cure, that every general practitioner should be able to diagnose and treat the minor ear troubles of childhood, parents should be educated to look after rather than neglect these minor ailments and that the simplest kind of attention along these lines of prevention would conserve largely the function of hearing that is now so often and needlessly lost.

Miss Mary McCowen, one of the most successful instructors of the deaf, was present with several pupils from her school, and with the assistance of these gave a most interesting demonstration of methods of instruction for the deaf. Her particular plea was for early inauguration of instruction. No babe is too young to begin learning and it is a sad mistake to wait till the child is eight or ten years of age before attempting to teach him.

There was a lively discussion on smoking in public conveyances. A resolution was passed condemning the practice as a menace to public health, and commending the Chicago newspapers which have advocated abolishing street car smoking.

At the April meeting the program presented:

Returns from the Questionnaire.....Dr. Clifford Mitchell
Notes on Vaccine Therapy.....Dr. W. Henry Wilson
Hospitals in Foreign Lands.....Dr. Julia Strawn

Northwestern Homœopthic: Rockford, April 9th. Illustrated Paper on Obstetrics, Dr. Gilbert FitzPatrick, Chicago. Organization, Dr. J. W. Calvert, President Illinois Homœopathic Medical Asociation. Materia Medica, Dr. Alexander L. Blackwood, Chicago. Characteristic Symptoms of Seven Potassiums, Dr. Carl Urbom. Value of Symptoms in Ophthalmology, Dr. L. A. Schultz.

Rock River Institute: Sterling, April 2nd. Radium's Story, a Medical Mystery, E. S. Bailey, M. D., Chicago. European Hospitals, B. A. McBurney, M. D., Chicago. Organization, J. W. Calvert, M. D., Bloomington, Ill. Presidential Address, A. E. Smith, M. D., Freeport, Ill. Gastric, Duodenal and Intestinal Ulcers: Etiology, Pathology and Prognosis, J.

L. Snavely, M. D., Sterling, Ill. Medical Treatemnt, F. J. Schott, M. D., Rock Falls, Ill. Surgical Treatment, M. J. Hill, M. D., Sterling, Ill.

Michigan. Western Michigan Society: Grand Rapids, March. Dr. R. O. Allen, Remus: Dangerous Communicable Diseases. Dr. A. B. Smith, Grand Rapids: Homœopathy versus Surgery.

Ohio. Dayton Semi-monthly, March. Dr. T. A. McCann, Sex Hygiene. Dr. W. J. Blackburn, Dr. Frank Littell, Presentation of Clinical Cases. Dr. W. W. Ensey, Personality in Materia Medica.

Eastern Ohio, Akron. Annual session April 15:

Too Rich a Mixture.....Dr. Alice Butler, Cleveland
Some Things I Have Picked Up..Dr. W. H. Kirkland, Galion
Clinical Paper .....Dr. A. E. Stepfield, Doylestown
Placenta Previa.....Dr. H. D. Bishop, Cleveland
Small Pox (Case Reports)....Dr. C. C. Waltenbaugh, Canton
Materia Medica.....Dr. R. N. Warren, Wooster
Alopecia.....Dr. G. W. Spencer, Cleveland
Present Status of the Cleveland-Pulte-Ohio Amalgamation
.....Dr. James C. Wood, Cleveland

Cleveland Homœopathic: Reported by Dr. Gertrude Meck. The evening of April 8th gave us the most enthusiastic meeting of the year. Dinner was served at the Athletic Club. The address of the evening was a scholarly paper by Dr. James Krauss on "Therapeutic Laws." It was a sturdy presentation of homœopathic therapeutics, and was discussed by some of our best materia medica men. The May meeting will be abandoned in favor of the state meeting at Columbus, May 11 and 12. The June meeting will be a business meeting.

Pennsylvania. Reported by Dr. Ralph Bernstein.

The Homœopathic Medical Society of the County of Philadelphia: General Principles and Results of Vaccine Therapy, by S. W. Sappington, M. D. Experiences in Vaccine Treatment, by Raymond S. Leopold, M. D. Vaccine Therapy of Sarcoma, by John Dean Elliott, M. D.

The Clinico-Pathologic Society of Philadelphia: Tetany. Report of Two Cases, by M. M. Gay, M. D. A Short Series of Surgical Cases, by D. Homan, M. D. A Short Series of Dermatologic Cases, by R. Bernstein, M. D.

The Germantown Homœopathic Medical Society: Bone and Joint Lesions with Special Reference to Regeneration, by D. Homan.

The Society of Surgery, Gynecology and Obstetrics: Some Experiments with Radium, by F. C. Benson, Jr., M. D.

The Importance of Gonorrhea in the Glands of Skene, by Augustus Korndoerfer, M. D. Some Therapeutic Results Obtained from Ureteral Catherization, by Wm. C. Hunsicker, M. D.

The Women's Homeopathic Medical Association of Pittsburg, Pa.: Diseases of the Stomach and Bowels which occur in Childhood, by Clara H. Williams, M. D.

London. British Homœopathic, April: Specimens and cases exhibited by Dr. Blakeley, Ichthyosis. Drs. Blakeley and Hare, Blood Films from Pernicious Anemia. Dr. Weir and Mr. James Eadie, Vermiform Appendix. Dr. Greig and Mr. Eadie, Fracture of Olecranon, repaired by carpenter's steel nail. Skiagraph by Mr. Chisholm Williams. Recent Experiments, Dr. C. E. Wheeler, London. The Baths of Kreuznach, Dr. B. Franz, Kreuznach.

Clinical Comment.

Sanguinaria in Pneumonia.—The special indications that call for sanguinaria in pneumonia are found usually in the second and third stages and are given concisely in "Lilienthal's Therapeutics" as "Cough dry at first; excited by tickling and crawling in the trachea and upper portion of the chest; tough and rusty sputum during red hepatization, purulent and offensive is the third stage; hectic fever, diarrhea, night-sweats, prostration, distressing amount of dyspnea, hands and feet burning hot or cold, lies upon back with head elevated; *failure of heart's action, before amount of hepatization can account for it.* Heart's beat weak and irregular; patient feels faint, covered with sweat and suffers from nausea; pulse small and quick, fever from 2 to 4, with flushed cheeks."

My own use of sanguinaria in pneumonia has been on the indications as given above. I would emphasize the symptom of the patient's lying on his back. The pains of sanguinaria are much like bryonia in character but less severe; and while the bryonia patient is relieved by lying on the painful side, the sanguinaria patient always lies upon the back; sitting up and passing flatus relieves the cough. In most of the cases coming under my observation where sanguinaria has been indicated the sputum has been tough and often quite bloody. While sanguinaria is considered a right-sided remedy, I am certain I have used it as often for left as for right-sided troubles..

With sanguinaria I have succeeded in curing two cases in the second stage of pneumonia. The curing a case in the second stage means considerable. The fever gradually subsided (lysis), dullness over the affected area gradually lessened, and normal respiration returned in three days after commencing

the remedy with scarcely a râle to be heard and very little expectoration. Sanguinaria is a remedy that follows well after phosphorus or opium. Sanguinaria compares well with opium as regards sweat stage, but the pulse of opium is full and slow while the sanguinaria pulse is feeble, often intermittent. The hot sweat all over calls loudly for opium. Sanguinaria has a burning pain under the sternum, not present in the opium cases. Sanguinaria will often tide over a feeble heart in the second stage of pneumonia, and that is in my opinion the most dangerous time, and a time when our old school friends give stimulants and the heart just gives up the work of trying to pump blood into a solid lung, which is like butting one's head against a stone wall. The wall remains, but the head is damaged, and so is the stimulated heart under such conditions. Here is where sanguinaria often saves the patient.

Clark, The N. E. Med. Gazette, March 1914.

Tests for Delayed Excretion of Urine.—Much attention is now paid to the phenolsulphonephthalein test as already mentioned in the *Recorder*, for January. A simpler test, however, is the following: cause the patient to stay in bed on the usual mixed diet from midday till midday. If the excretion of urine is normal, the greatest amount will be noticed about four hours after each meal. (Portal engorgement interferes with this test and no such marked maximum is noticed.) Another test is for slowness of elimination after copious drinking: The patient drinks 500 c.c. of water on an empty stomach and remains in bed collecting and measuring all urine voided in six hours. He then rises and drinks 500 c.c. of water again, keeping on his feet, and fasting for six hours more. He also collects and measures his urine as before. In the case of a normal person (1) more urine will be voided than when the 500 c.c. is not drunk under similar circumstances; and (2) more urine even than the amount of water drunk may be passed; and (3) no great difference in the amounts will be noted whether the patient is in bed or on his feet.

Day urine scanty in women: the writer has noticed that in many cases women pass less than 500 c.c. of urine during the day and 500 or more c.c. of paler urine at night, thus completely reversing the natural ratio. In such cases the tests described above may throw light upon the presence of portal engorgement, a condition more common, perhaps, in modern women than suspected. Attention should also be paid to this same urinary phenomenon in the case of suspected gall stones in women. The writer has now a case of gall stones under observation in a woman awaiting operation in which the day urine is obstinately small in amount even under diuretic treatment.

Mitchell, The Hom. Recorder, March 1914.

Radiant Light and Heat.—A more modern and practical treatment of furuncles, boils, felons, carbuncles, otitis media, and sinus disease is the employment of radiant light and heat with reflected and direct rays from an arc or incandescent lamp, of sufficient candle power, making application for an hour at a time daily, or oftener in severe cases. This method has awakened great interest in the minds of the observing physicians who have become familiar with the technic. Its general adoption will prove its efficiency both to the operator and his suffering patient.

Long before the recognition of the value of radiant light and heat other simple methods were in vogue for treating local septic infection, which also were more effective than yeast and the old-time bread and milk poultices.

A cup of hot water kept at the highest temperature at which it can be tolerated by frequent additions or changes is provided, into which the finger is kept for two or three hours, and repeated if pain recurs. This simple method will in every instance abort a felon, if the treatment is begun before pus formation.

The Jour. of Advanced Therapeutics, March 1914.

Superstition and Insanity.—It is hoped that it has been proven that superstition is not founded upon fact, or that it is the result of drawing the wrong conclusions. It is also believed that everyone following up the study of mental development of diseases will grant that every improper, poor or abnormal impression made upon the brain or any other part of the nervous economy is not best for the general make-up. Now here comes the vital point—any idea, impression or action that is conceived, expressed or believed in without *rational* reasoning must of necessity be of an abnormal nature and therefore being not rational—not *thoroughly sane*. Being not thoroughly sane, it must be to a greater or less degree *insane*. Hence superstition is a form of insanity—to be sure not always of a decidedly harmful nature, but just the same insane. A weakness in one direction may lead to one in another and we should guard against all of the weaknesses that we can.

It is surprising the number of "well-balanced" people having superstitions and when their health gives away, these absurd beliefs get the upper hand of their mentality. It is wonderful how many insane persons are simply following out magnified superstitions.

Now, what can we do as physicians? Use all of our influence to teach parents, teachers and children the absurdities of all superstitions and that they are of an unhealthy nature for the minds of all people. Teach how to overcome the tendency by becoming logical—not skeptical. Do not laugh at superstition, but treat it seriously, and then you will be do-

ing something for humanity in a service along a new but all-important line of work.

Massey, Hahnemannian Monthly, March 1914.

Prolapse and Pelvic Connective Tissue. It is my belief that prolapse is at all times the direct result of a fault in the connective tissue structures of the genito-urinary organs. I have no faith in the influence that the levator ani or other perineal muscles directly exercise as supporting agents, and believe that this power is only operative through the medium of their fascia. It is high time that reference to tears through the levator ani muscle and textbook illustrations of this character were eliminated, for they are pure figments of the imagination. . . Encircling the cervix and radiating from here laterally, forward and backward, we find a dense connective tissue layer endowed with names almost too numerous to mention. Every anatomist who has given any attention to the subject has christened it in conformity with his fancy. The designations most frequently used are facia endopelvina, ligamentum transversum of Mackenrodt, ligamentum cardinale of Knocks and recently Eduard Martin wishes it to be called the retinaculum uterinum. The fascia endopelvina or pelvic facia is most dense in its central, transverse portion, being about as thick as the finger. Its posterior fibers pass into and below the sacro-uterine ligament to the sacrum, and those anteriorly take a course toward the bladder, passing underneath this viscus to become attached to the pubes, thereby forming the true lateral ligaments of the bladder, some few strands also appearing in the vesico-uterine ligaments. In a condensed form they pass upward around the bladder and downward between the bladder and vagina to form the vesico-vaginal fascia, the recto-vaginal fascia being similarly constructed from fibers having a more central origin. It is this tissue which I consider the main prop to fundus of the bladder and injury to which is the cause of cystocele, that is a hernia of the bladder through its separated or damaged fibers with the anterior vaginal wall as its cover. I have been able to demonstrate this in my operative work and have verified it in my pathological investigations on the cadaver, and the recognition of this state forms the basis of an operation that I have been successfully employing for a number of years for the cure of cystocele.

Now, the view which I hold is, that descent of the uterus or bladder wall is entirely due to damage to the pelvic connective tissue and prolapse of the vagino-rectal septum to a lesion of the connective tissue of the pelvic outlet. It is an accepted observation that complete laceration of the perineum is very often unattended with descent of the pelvic viscera. The enlargement of the genital hiatus is the direct result of a defect in the perineal fascia, which permits the levatores to roll outward

and consequently toward the lateral wall of the pelvis. The atrophy and fatty degeneration are secondary conditions consequent upon the pressure and circulatory disturbance occasioned by the prolapse.

Stark, The Lancet-Clinic, March 1914.

Training for Leadership.—In the judgment of many, too much attention has been given to helping and prodding and coaxing the defectives, and not enough to properly directing the bright ones. It is not the slow coach who is the menace to the commonwealth; it is the one who is educated to the point where he is ashamed of work, and has not been guided into any suitable occupation.

It is often the very bright pupil who has the idle time that leads into mischief, and whose easy time in school leaves him unfitted for the plodding which is a part of every vocation.

In New Orleans the schools have taken up the study of the exceptional child, and through his parents and without attracting his attention to the fact that he is being studied, trying to ascertain why he is strong, healthy and happy, and so create an ideal for which others will strive.

As this child is the *really normal* child, these studies will show the results and comparative value of heredity and environment, and the time and effort lost on dullards can be spent on these normal pupils.

Simpson, Pac. Coast Jour. Hom., March 1914.

Albuminuria and Faulty Metabolism.—And thus we are forced into believing and endorsing the opinion that albumin is one of the early evidences of a faulty metabolism which if not recognized early will lead to a more or less serious condition. The waste products accumulate, the disintegrated proteids circulate in the blood, and acting as irritants lead to the development of inflammatory changes in many parts of the body, especially the kidneys and the other eliminating organs.

The fact that hemorrhages are more frequent in albumin cases is accounted for by the increased blood pressure accompanying kidney inefficiency, and the cerebral and retinal hemorrhages as well as epistaxis point to the necrotic changes that may take place in every organ of the body.

The inertias point to a weakened musculature and loaded nerve centers. The nervous explosions to an unbalanced, hypersensitive brain, all of which in view of our present knowledge points to a faulty metabolism, dependent in all probability, upon an unequal ratio between the secretions of the ductless glands. *FitzPatrick, The Clinique, March 1914.*

Vaccine Therapy.—The results in cases treated with vaccines to be conclusive should be striking when compared with

patients treated without vaccines in the same institution during the same period. During the six months from April 1, 1913, to October 1, 1913, there were treated in the Hahnemann Hospital twenty-nine cases of typhoid fever with a mortality of 31 per cent. It was during this time we used vaccines, eighteen cases being treated by routine methods and eleven with vaccines. All of those treated with vaccines recovered, while in those treated by other methods there was a mortality of 50 per cent. The discrepancy here is remarkable and it will at once be suggested that the vaccine-treated cases were selected and mild while the others were severe. Such, however, is not the case, over half of our vaccine-treated patients being of the severe types of the disease in which the prognosis is very doubtful. To insure being perfectly fair toward the group of cases not treated with vaccines, however, we may exclude from their list all cases which were not in the hospital for treatment more than ten days, and we then have a mortality of 25 per cent. Two of these patients died of perforation and one of hemorrhage.

The symptomatic effects of the vaccines were most gratifying. The convincing objective evidence of improvement in the decline of temperature and the fall of the pulse was anticipated in a number of patients by the clearing of the mentality and the disappearance of toxic symptoms. The vaccine-treated subjects averaged 18.7 days of fever while those under routine treatment averaged 19.2 days. The average number of days of fever after vaccine treatment was instituted was 15.3. The average number of days in the hospital for those under vaccines was 33.7; for the others, 30.8. The days of fever and hospital treatment thus given are not markedly in favor of our cases, but it must be remembered that half of the routine-treated cases died and could not be included in this average. This, it will be seen, removes from calculation those severe cases which increase the fever and treatment average. In a previous series under vaccines, there averaged 24 days of fever and 46 days in the hospital. There was one complication, an abortion in a woman three or four months pregnant. Two patients suffered relapse, one of eight days and one of twenty-one days febrile duration. This is rather unusual, as most vaccine therapists have made a strong point of the small number of relapses. Callison reports 6.5 per cent of relapses in a collection of 475 cases.

Watters calls attention to the almost universal approval of this method of treatment by those who have used it, and particularly by those who have given it the most extended trial. He has collected 1,120 cases with a mortality of only 6.3 per cent. Callison's collection of 475 cases showed a mortality of 6.5 per cent. Meakins and Foster, using large doses of 1,000 to 2,000 million bacteria, had a mortality of only 2.4 per

cent in 41 cases, while the death rate was 10 per cent in the unvaccinated. The fact that there were no deaths in the writer's small series of eleven cases is not particularly impressive until we compare it with the large mortality in the unvaccinated. We are quite willing, too, that the liberal diet of Coleman admisistered in our cases, should have its share of credit with the vaccines. But we were personally much impressed with the recovery of some almost hopeless cases in direct response to the use of vaccines.

To sum up. Statistics from a great number of observers in this country and in England furnish figures quite favorable to the vaccine therapy of typhoid fever and strikingly so in regard to the mortality. The present small series, by comparison with unvaccinated cases, corroborate these results. Even the opponents of this method, we believe, have never claimed that it does harm. It seems, therefore, strange and even unwise that the vaccine therapy of typhoid fever is not thoroughly tried out rather than mainly ignored.

Sappington, Hahnemannian Monthly, March 1914.

Psychic dislocations.—In the casual relations of life, the hysteric, the neurasthenic and the sufferer from obsessions are looked upon as individuals who could by an effort of will overcome their vagaries.

This conception, instead of helping to overcome the manifestations, but serves to intensify and perpetuate them, for neither the cause nor the cure originates in the will.

The act of repression, which ultimates in some fixed form of abnormal expression, is always automatic and outside of the realm of reason, or the influence of will.

It is only when the potential elements of the abnormalities are brought to the understanding of the sufferer that his reason and his will can adjust his psychic activities into normal relation to his surroundings.

Obsessions are logical expressions of emotion common to everyone. They are "obsessions" only because their emotional foundation has been displaced, and these emotions can manifest themselves only in the direction of their dislocation.

Inasmuch as any of our instincts impel us in a direction contrary to the practical individual or communistic ethical requirements of home and life, to that extent we all suffer from psychic dislocation and impairment of efficiency.

Stearns, The Medical Advance, March 1914.

Book Reviews.

Progessive Medicine. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia; Ophthalmologist to the Frederick Douglass Memorial Hospital; Instructor in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine. March, 1914, Lea & Febiger, Philadelphia and New York.

The March number of *Progressive Medicine* contains an interesting article: "Surgery of the Head and Neck" by Charles H. Frazier, M. D. "Surgery of the Thorax Excluding Diseases of the Breast," by George F. Miller, M. D. "Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza," by John Ruhrah, M. D. "Diseases of Children," by Floyd M. Crandall, M. D. "Rhinology and Laryngology," by George B. Nord, M. D., and "Otology," by Arthur B. Duce, M. D. Dr. Frazier gives a description of the successful treatment of trigeminal neuralgia by the alcoholic injection with drawing illustrating the operative technic of Hartel of the Bier Clinic in Berlin. Dr. Ruhrah notes the discovery of a new diphtheria proplylactic, a combination of antitoxin and toxin, which promises a more lasting immunity than the antitoxin alone. He also urges the necessity of having trained public health officers, and calls attention to the fact that Harvard, and the Universities of Pennsylvania, Wisconsin and Michigan offer special courses to their students, and confer the degree of doctor of public health. Dr. Crandall credits Dr. Josephine Baker, Director of Child Hygiene of the New York Health Department, with one of the best recent papers on the subject of "Infant Mortality," and highly commends the results accomplished by the New York Health Department during the last two years, under a system of milk stations, and instruction of mothers. Dr. Baker says the solution of infant mortality is 20 per cent pure milk, and 80 per cent training of the mothers. Great emphasis is placed upon the high immunity power of the breast-fed infant. *M. F. McC.*

Modern Medicine. Its Theory and Practice. In original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M. D., F. R. S., Regius Professor of Medicine in Oxford University, England; Honorary Professor of Medicine in Johns Hopkins University, Baltimore; formerly Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M. D., Professor of Medicine in the Jefferson Medical College, Philadelphia; Fellow of the Royal College of Physicians, London; formerly Associate Professor

of Medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1000 pages each, illustrated. Volume II. Diseases caused by Protozoa and Animal Parasites—Diseases Due to Physical, Chemical, and Organic Agents—Diseases of Metabolism and of the Respiratory System. Just Ready. Price, per volume, cloth, $5.00, net; half morocco, $7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This volume consists of six parts and is the second volume of a set of five books. Part I. Protozoan Infections; Part II. Diseases caused by Animal Parasites, exclusive of Protozoan Infection; Part III. Diseases caused by Physical Agents; Part IV. Diseases due to Chemical and Organic Agents; Part V. Diseases of Metabolism; Part VI. Diseases of the Respiratory Tract.

"Modern Medicine" is right. It contains the most advanced knowledge of the master minds in medicine of this age. Each subject is so well written as to convince the reader at once of the special qualifications of its author. It is fascinatingly interesting to the medical mind, treating in an exhaustive and orderly manner each disease and its present day treatment. It is the combined result of special investigation and research by some of the most noted leaders in medicine and it well deserves the hearty support of the entire profession. The price is moderate and the book is worth it; therefore it should be owned and studied by every medical practitioner regardless of school. *S. H. A.*

Studies in the Psychology of Sex. Erotic Symbolism. The Mechanism of Detumescence. The Psychic State in Pregnancy. Volume IV. in the series, Studies in the Psychology of Sex. By Havelock Ellis. Philadelphia. F. A. Davis Company.

"We have faced the fact of sex so squarely that we can hardly see anything else." There is lingering in the memory, a simple experiment in optics. If you prick a hole in a card and hold it at a certain distance between the eye and a glowing wood fire, all the world is afire. The peril of an exclusive specialty is that all the world appears to be under the blight of one particular curse. Nowhere has a more sane pronouncement been made anent sexology than in a recent article, "Fashions in Men," in the April issue of the Atlantic Monthly, where the author puts on record not only the above quoted sentence but this one also: "Much of the frankness doubtless is a good thing; but beyond a doubt, it has cheapened passion. For passion among civilized people is a subtle thing: it is wrapped about with dreams and imaginings; and can bring human beings to salvation as well as to perdition."

The honesty of purpose of this writer of a fifth volume in this series is not questioned. The importance of the subject is not minimized. But is the mass of tradition and narration worthy so much serious effort? Tremendous factor in life?

Yes. At times overwhelming in its intensity? Yes. But in the life of the worker who achieves, sex is incidental, not an end.

When the principles of biology are taught as simply as the principles of mathematics, when honor surpasses smartness as a test of a successful life, sanity will take the place of a world-riot of sex emotionalism. The principle of conservation and transformation of energy is as fundamental in human function as in the machine shop. The full significance of this principle has not yet been glimpsed by many a reformer in the field of social problems. *S. M. H.*

United States Department of Agriculture.

WARNING TO USERS OF TURPENTINE FOR MEDICINAL OR VETERINARY PURPOSES.

Users of This Substance Cautioned to Make Certain That It Is Not Adulterated.

Washington, D. C., Mar. 31, 1914.—As the result of an investigation by the U. S. Department of Agriculture, it has been found that the adulteration of turpentine with mineral oils is so widespread that druggists and manufacturers of pharmaceutical products and grocers' sundries used for medicinal and veterinary purposes should exercise special caution in purchasing turpentine. Those who use turpentine for this purpose, unless they are careful, run the risk of obtaining an adulterated article and unnecessarily laying themselves open to prosecution under the Food and Drugs Act.

It has been found, moreover, that the turpentine sold to the country stores especially, as usually put out by dealers and manufacturers of grocers' sundries, is often short in volume by as much as 5 or 10 per cent. Dealers, therefore, should also protect themselves through a guarantee from the wholesaler that the bottle contains the full declared volume.

The Department has found that turpentine may be adulterated in the South where it is made and that the further it gets from the South the more extensively and heavily it is adulterated.

In all cases, druggists, manufacturers and wholesale grocers should satisfy themselves that the turpentine is free from adulteration and is true to marked volume.

Worth Repeating.

ATLANTIC MONTHLY, FEBRUARY, 1914.

ATHLETICS AND MORALS.

Youth is radical, and, at the same time, it is conservative beyond the furthest reach of Toryism. Was there ever a collegian who turned his hat up and his trousers down when custom prescribed a contrary procedure? It is hard to realize the fixity of student opinion once it has run into the mould. A code of behavior may be established in a year; in two it becomes a mark of caste; in four it is immemorial precedent. And, yet, a sudden shaft of idealism will transfix a school or college and alter opinion over night. The tonic effect of an honest captaincy upon a school team is one of the most exhilarating phenomena of school life.

So much is familiar to those who have kept young by knowing youth. It is in the light of these conditions that I should like to consider the question of athletics and morals in a brief introduction to the more deserving papers by the headmaster of Phillips Academy at Andover, and by Professor Stewart of Idaho, which follow in this number.

It is a rule with few exceptions, that the standard of school and college athletics runs level with the standard of public opinion in school and college. Coaches may introduce dirty tricks; an occasional team may be willing to buy a victory at any price; but, in the last analysis, undergraduate policy and action are determined by social rewards and social penalties. If the feeling once gets abroad that a championship has been dearly bought, the high price will not be paid a second time.

Not many years ago standards of honor in the classroom were not much higher than those on the athletic field to-day. The problem then was much like the problem now. It was solved, not by imposing additional regulations upon the students, but by allowing them to regulate themselves. The tone of student honesty conforms to the public opinion set in the last analysis by a small group of the older and abler boys. If you subject that group to the influences of the larger body, you will have a public opinion less strained and more responsive to the healthy reaction of the normal mind. Thanks to social discipline the Honor System has triumphed in the examination room: if athletics was generally under the supervision of student councils, directly responsible to the student body, discussion would take a different turn and honesty would follow fast. Dishonesty never throve on publicity, and never will.

BOILS—
BRUISES—
BURNS—

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often "aborts" suppuration in a boil; promptly relieves pain and inflammation in bruises, and in severe burns, often prevents scar—also sepsis where the injury to tissue is deeper.

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Publisher's Department

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Constipation of Infants.

In the adjustment of diet to the particular requirements of the individual infant, constipation is often a prominent symptom that must be taken into account.

The baby that is habitually constipated is not likely to make the progressive gain that is desired, and when this condition exists for any great length of time it may lead into serious digestive disturbances.

Efforts that have resulted in a large measure of success for the Mellin's Food Method of Milk Modification have brought to notice certain food changes which may be made use of in the dietetic treatment of constipation. These food changes are chiefly set forth in a pamphlet which physicians may obtain by writing to the Mellin's Food Company, Boston, Mass.

Nasal and Aural Infections.

There is a growing impression among specialists in those diseases that catarrhs of the nose and ear, especially chronic discharges, are commonly the results of mixed infections. If this view is correct, is it not a fair inference that Mixed Infection Phylacogen may provide a solution to one of the most perplexing problems that the profession has been called upon to solve? There is ground for such conclusion. Certain it is that the Phylacogen referred to has produced some very satisfactory results in numerous cases which had failed to respond to conventional modes of treatment. The writer recalls several cases of this character that have been reported in the medical press during the last year and a half.

An open letter to the profession, which is appearing in leading medical journals over the signature of Parke, Davis & Co., adduces additional evidence of the value of Mixed Infection Phylacogen in stubborn nasal and aural infections. This communication, which bears the title, "A Letter to Medical Men," cites some cases that appear strongly confirmatory of the mixed-infection theory of etiology. All of the reports are interesting. At least one of them is remarkable: it deals with a housemaid who suffered almost total deafness in one ear for twenty-one years and whose hearing in the defective organ was practically restored after eleven injections of Mixed Infection Phylacogen.

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Crotalin In Epilepsy.

It is now some five years since Crotalin was given by hypodermic injection for the treatment of epilepsy, so that it can no longer be said that it is in its experimental stage, as during this time many cases have been reported as cured No attacks having appeared in two, three and four years since treatment was given with Crotalin.

Boericke & Runyon, manufacturing pharmacists, 14 West 38th street, New York City, supply the Crotalin in ampoules containing one cubic centimeter each, of varying strengths. The Crotalin prepared by Boericke & Runyon is endorsed and used by the leaders in the medical profession and by many sanitariums, hospitals and governmental institutions. Booklet giving Therapeutics, Clinical Reports, Preparations, Prices, etc., mailed on request.

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LETTER TO MEDICAL MEN.

No. 2.

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Publisher's Department continued)

Vaso-Motor Derangements.

The part played by the vaso-motor system in countless diseases is at last thoroughly recognized. As a consequence, circulatory disorders are among the most common functional ailments that the modern physician is called upon to correct. Various heart tonics and stimulants are usually employed, but the effect of these is rarely more than temporary. To re-establish a circulatory equilibrium that offers real and substantial relief from the distressing symptoms that call most insistently for treatment requires a systematic building up of the whole body. Experience has shown that no remedy at the command of the profession is more serviceable in this direction than Gray's Glycerine Tonic Comp.

For nearly 20 years this standard tonic has filled an important place in the armamentarium of the country's leading physicians. Its therapeutic efficiency in restoring systemic vitality and thus overcoming functional disorders of the vaso-motor or circulatory system is not the least of the qualities that account for its widespread use. The results, however, that can be accomplished in many cases of cardiac weakness have led many physicians to employ it almost as a routine remedy at the first sign of an embarrassed or flagging circulation.

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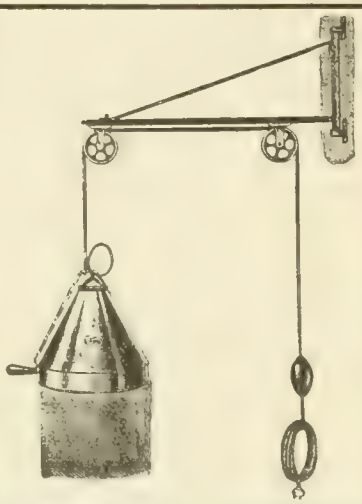

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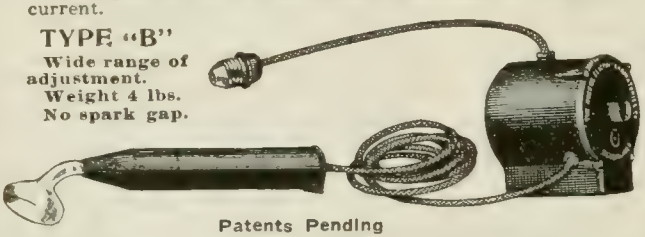

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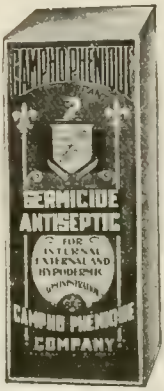

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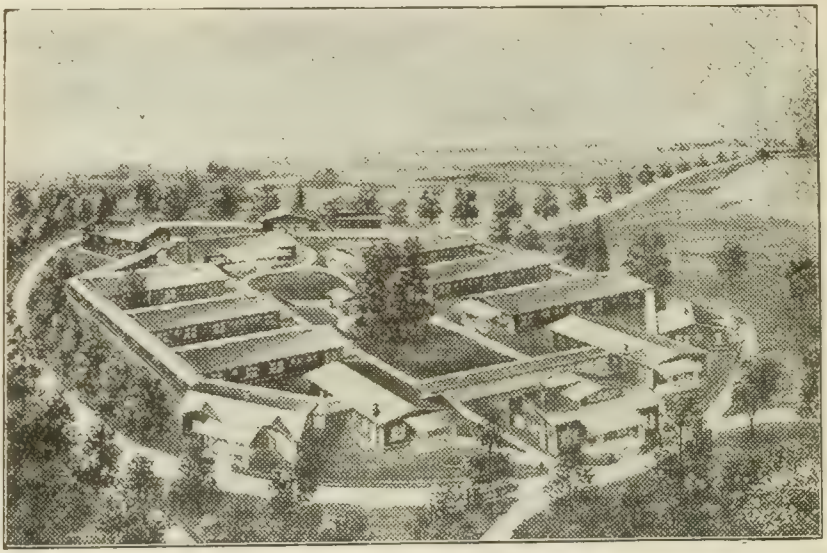

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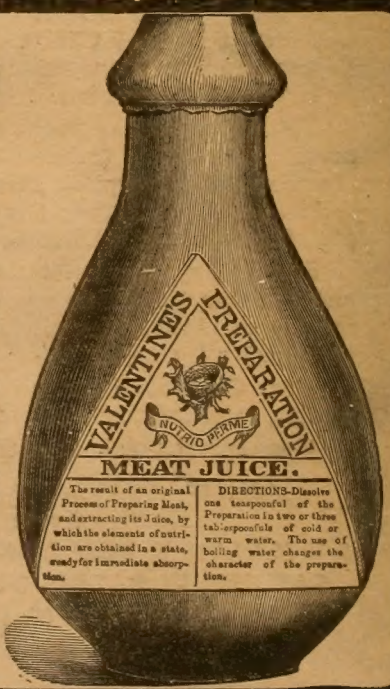
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